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## » PCMAG ONLINE

PC Magazine had a huge team of editors, reporters, and analysts at the 2007 Consumer Electronics Show in Las Vegas, bringing our readers the most complete CES coverage available anywhere. If you want to see what the tech world of 2007 looks like, head over to [go.pcmag.com/ces](http://go.pcmag.com/ces) for product news, expert industry analysis, and a photo blog of everything we saw.



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**FIRST WORD**  
BY JIM LOUDERBACK, EDITOR

# Free Software; CES; iPhone

**Y**OU DON'T NEED TO SPEND A LOT on software these days—in fact, you can run your entire computer and all your applications for free. In this issue, we pick the best free software available, and get some of the experts in the field, including the top guys at Digg and Slashdot, to share their faves.

But before you go downloading willy-nilly, take heed: Some “free” apps, particularly anti-spyware, are actually nasty programs themselves. They watch you, report on what you do, and perhaps even pilfer your identity. Our list is safe, but be careful as you move beyond it.

**CES.** I'm just back from the annual Consumer Electronics Show, where the most exciting trend was the emergence—finally—of ultra-wideband wireless, also known as UWB, Wireless USB, or WiMedia. Unlike Wi-Fi, which works around your home or office, UWB works around your body. Its range is just 30 feet, but it can operate at 480 megabits per second. That's fast!

I caught up with my old pal Billy Brackenridge, a brainiac evangelist who's now working for UWB chip maker Staccato Communications. Over dinner on the eve of the show, he explained why UWB is so cool. “By the end of the next decade, everyone on this Earth will be carrying around a powerful battery-powered processor in the form of a phone,” Billy predicted. That system will wirelessly connect to cheap screens, perhaps embedded in our clothing, and to more expensive HD screens when we get in range; and it will securely connect mice, keyboards, peripherals, screens, and storage.

Its success is by no means certain. Billy cautions: “We are fighting for the airwaves.” The phone companies are on the other side, “buying up spectrum so nobody else can use it; just locking it up to preserve their monopoly.”

But judging by the wide range of products on the show floor, the potential is huge. Toshiba was showing off its ultrasleek Vista tablet/notebook hybrid, with a radical new UWB docking station: Bring the system within 10 feet of the station and it's docked. That's wireless magic.

Video interconnect company Gefen, which makes a wide range of wired HD splitter and

extender products, showed off a UWB-based device that lets you wirelessly stream full-on protected 1080p HD video up to 30 feet. Put your flat-panel on the wall, or your HD projector on the ceiling, and wirelessly send it a signal from across the room. Poof, no messy wires!

Another encouraging trend: unlocked, independent, and mostly Linux-based cell phones. I love the new Pharos GPS-enabled smartphone, unlocked and unfettered—its built-in mapping capabilities will save you paying \$10 a month to Verizon or Sprint. Totally programmable smartphones from Open Moko and Trolltech were also on display. These are even more exciting, as they bring the unfettered PC-style platform to the cell world and open up a whole new way for you to get more out of technology.

**IPHONE.** The biggest news at CES came not from the show but from Apple's Macworld in San Francisco. Steve Jobs rolled out the iPhone, which struck me initially as Newton 2.0—14 years later. While I love some of the features, including an e-mail-style view of your voice mail, a sensor that turns off the touch screen as it nears your face, and the thin design, there are problems. I'm a well-known klutz: I'd break that beautiful screen in about three weeks. The iPhone's locked to Cingular, which limits it to big cities. There's no high-speed broadband wireless (only EDGE and Wi-Fi). And it's too expensive. We excoriated Sony for delivering a \$500-to-\$600 PlayStation 3, yet Apple's price is just the same. I'd take a PS3 over an iPhone any day—if I could find either one on the shelves. □

## » TALK TO THE CHIEF

You can contact Jim Louderback at [Jim\\_Louderback@ziffdavis.com](mailto:Jim_Louderback@ziffdavis.com)

For more of his columns, go to [go.pcmag.com/louderback](http://go.pcmag.com/louderback)

**Apple's iPhone:** It was the talk of CES—even though it was unveiled at Macworld, 400 miles away.







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## A PRESCIENT QUOTE

***Uncanny. I received the January 2007 issue the day after President Gerald Ford died, and Jim Louderback's column starts with a quote from him! Ford, addressing the nation for the first time as president after the resignation of Richard Nixon in 1974, said, "My fellow Americans, our long national nightmare is over."***

Now, if only Jim could predict the actual release date of a future Microsoft product within a one-month time frame, I'd really be impressed.—*Jerry Whittle*

*Hey, I was the first one to state publicly that Vista would be late (around the time Microsoft released Windows NT), but that was like shooting fish in a barrel!—Jim Louderback*

## AN APPLE FOR THE STUDENTS

That was a great article on wired colleges (January, page 112)—but don't leave out middle and high schools. Take the Holland Christian Schools system in Holland, Michigan. Starting in sixth grade, all students get Apple notebooks, and after three years, they get new Apples. The buildings are 100 percent wireless, with automatic differential backups occurring for students as they enter the building. All teachers are trained in using technology for education and have notebooks for class assignments and teaching. Some classes are taught 100 percent paperless—no textbooks. There's online support for students. All grades, assignments, and events are online. Top 10, I would say.—*Steve Leppink*

## » HOW TO CONTACT US

We welcome your comments and suggestions. When sending e-mail to Feedback, please state in the subject line of your message which article or column prompted your response. E-mail [pcmag@ziffdavis.com](mailto:pcmag@ziffdavis.com). All letters become the property of PC Magazine and are subject to editing. We regret that we cannot answer letters individually.

## THE ZUNE SWOON

Never did I think I would see *PC Magazine* take the side of Apple and be biased against Microsoft. But in your magazine's review of the Microsoft Zune (January, page 42), you did just this. Let's start off with the Zune's pros and cons as stated in the review. One of the cons listed was the Zune's lack of PlaysForSure support. Why isn't this listed as a con in your review of the Apple iPod? Just because it's made by Apple doesn't mean it gets to be an exception to this. Then for another con, you point out that the Zune has a nonreplaceable battery. The iPod also has a nonreplaceable battery, but just like PlaysForSure, it too isn't listed as a con in your iPod review. Again, is the iPod somehow an exception to this because it's made by Apple? For another con, you say that the Zune has a small hard drive. For one, who decided that 30GB is small? And two, you don't list this as a con in your review of the 30GB iPod. Does having a 60GB brother somehow make the 30GB iPod's hard drive space more acceptable than the Zune's 30GB? They are both the same size, so if you're going to label one as small, the other one should be labeled as small. Maybe you should consider getting someone who isn't biased against Microsoft to review its products.—*Kyle Foley*

When we reviewed the Zune, it became obvious to us that Microsoft had studied the iPod and used what it had learned to design and build the Zune. That made it all the more frustrating to find that Microsoft had skimped on hard drive size (this is supposed

to be its premier portable player—comparable with, say Apple's 80GB iPod with video) and hadn't taken the opportunity to future-proof the player with a removable battery. As for PlaysForSure support, well, that wasn't Apple's idea. Microsoft came up with the platform and then pushed it—hard—on its partners. We were somewhat stunned to learn that Microsoft's own player left PlaysForSure behind. Imagine Apple coming out with a new digital music player that doesn't support iTunes and you get the general idea.—*Lance Ulanoff*

## PHOTO-PRINTING PITFALLS

I read Tony Hoffman's article on photo-printing services (Real-World Testing, January, page 134) with great interest. I live in a retirement community where I take photos for a manual to help other residents learn the names of our new residents. I currently print 4-by-6 pictures on an HP 932C printer and charge 50 cents each for copies. I make a few blunders on each batch, which runs up the total cost of producing pictures. I want, at least, to cover my expenses—I do not charge for my time, or I might have to charge \$5 for each picture. As a result, I am looking for a way to reduce the cost of printing pictures.

I tried using Sony ImageStation at 12 cents (not the 10 cents mentioned by Tony). When I uploaded the pictures to ImageStation on my dial-up connection, I discovered that 11 pictures were taking 50 minutes at 42 Kbps. I am not willing to wait that long for uploading. I do have an alternative. Next, I will copy my photo files to my laptop and take it to our computer room, where we have a DSL connection and I can upload in a few minutes.

I suggest that you mention that some of the new techniques are not suitable for a dial-up connection; they really require a high-speed connection for a timely application.—*Jim Kerr*

Unfortunately, dial-up restricts one's ability to upload photos quickly or in quantity. One option is to use an image editor to reduce file size, but that takes time, and it could degrade the image quality. There may be



local photo labs to which you could take a memory card or CD that will do a better job than the kiosks will and for less than you're paying to print your own.—Tony Hoffman

I was glad to see your article comparing photo-printing services. But you missed one very important aspect of this game of roulette: How closely did the prints you got back match what you sent out?

It appears that the sample shots laid out on page 134 (January) are the actual 4-by-6 prints you were evaluating. You may want to take a look at the young man's toe in the pictures from Target and from Wal-Mart. The latter has cropped the tip of his shoe out of the picture. Some might say, "No big deal." Others will think that the photographer doesn't have the eye that he thinks he has for composing the shot. I doubt anyone would realize that the blame should go to the photo-processing service.

I would love to know if there is any rhyme or reason to the random cropping that the services are doing. An extension of the subject could address the proper way to prepare your image files for printing if you expect to put the results in a frame. I wonder how many of us out here kick ourselves when we go to put our prize photo into a frame only to discover that the frame covers part of Johnny's head and foot.—Pete Lamperty

You raise a good point, one that we weren't able to cover in the space allotted for the story. Most digital-camera images have a 4:3 aspect ratio (ratio of width to height), which doesn't quite fit on 4-by-6 paper; the image would have to be either shrunk (leaving white space) or (most often) cropped. A few services let you print to paper that's cut to that aspect ratio (about 4 by 5.3 inches); many provide a tool that lets you choose which part of the image to crop when ordering prints. Check the service's Web site to see what cropping options it offers.—TH

## RESOLUTION AND TEXT SIZE

Regarding the red text next to the screen on the Gateway M255-E laptop (First Looks, January, page 58; [go.pcmag.com/gatewaym255e](http://go.pcmag.com/gatewaym255e)), it says "14-inch 1,280x800 resolution screen is great for viewing small text." I think the last two words should be reversed. It should say "14-inch 1,280x800 resolution screen is great for viewing text small." The fact that high screen resolutions make the

# ABORT, RETRY, FAIL

BY DON WILLMOTT

A PDA WITHOUT A CHARGE is not a PDA; it's a curiosity. And a PDA that doesn't sync with your computer is unfulfilled and may develop bipolar disorder.

A new excuse for malfunctions: your PDA's mental illness.



Another new excuse for malfunctions: Your computer is possessed by Satan.



Next time you're in Thailand, try the Wi-Fi waffles.

How many employees in your company?

☐ 1 - 10 employees ☐ 11 - 100 employees ☐ 100 - 1,000 employees ☐ 1,000 + employees ☐ I do not work outside the home

Would you take your child overseas to have a hernia repaired if it reduced your costs by 50%?

☐ Yes ☐ No

Why Whirlpool Corp. needs to know about your child's hernia is a mystery to us!

» **ARF NEEDS YOU!** If your entry is used, we'll send you a PC Magazine T-shirt. Submit your entries via e-mail to [arf@ziffdavis.com](mailto:arf@ziffdavis.com). Ziff Davis Media Inc. shall own all property rights in the entries. Winners this issue: William Papa, Brian McGee, Robert Deano, and Ross Guldenbrein.

text really small on the screen is not widely published. I found out the hard way when I recently purchased a 15.4-inch widescreen laptop and found the 1,680-by-1,050 resolution made the text on the screen unreadable because it was so small. If I increased the DPI settings to "Large Size (120 DPI)," it made some Web sites (and some shopping carts in Web sites) misaligned and not correctly displayed. Low resolution is great for viewing small text.—Russ Graves

## PHYSICIAN, E-MAIL THYSELF

I found M. David Stone's sidebar on faxes and e-mail alternatives (Expert View, January, page 38) refreshingly affirming. I work in medical imaging, and I spend a fair amount of time dealing with fax communication and its inherent inefficiencies. Invariably, the little piece of paper is moved, misfiled, shredded, or sent to the wrong person. For many years, I have been struggling with referring physicians and their staffs of presumably well-educated

practitioners, encouraging them to use image attachment e-mail for correspondence. The resistance is surprising and very frustrating. Often they don't seem the least bit curious or interested. Just the abilities to confirm delivery, receipt, and even the time of day that messages are opened are huge advantages native to digital/e-mail transmission. My suggestions fell always on deaf ears.

I agree that there are some HIPAA [Health Insurance Portability & Accountability Act] constraints to be considered, but the e-mail platform provides better resources for security than loose paper piling up on the fax machine. Larger organizations have incorporated the electronic consultation system, but outside, in the smaller "doc-in-the-box" operations, resistance continues to be firm. I had long ago given up on suggesting change in the direction of e-mail, but I may try again now. Perhaps the time will come when Mr. Stone and I won't have to.—Kurt Pelto





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NFLPLAYERS



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# FRONTSIDE

WHAT'S NEW FROM THE WORLD OF TECH



## A High-Tech Shangri-La

*Hotmail's founder is attempting to build a technology utopia in India called Nano City. Will it revolutionize city planning or turn out to be a pipe dream?*

**P**EOPLE HAVE ATTEMPTED TO TURN the concept of Utopia into reality since the 16th century, with most efforts ending in failure. But Hotmail.com founder Sabeer Bhatia is taking his shot at a high-tech community. Bhatia plans to build an 11,000-acre development called Nano City in the north India state of Haryana, with the hope of attracting nanotechnol-

ogy, biochemical, and pharmaceutical companies that have been put off by India's infrastructure problems, including contaminated water, inadequate sewage, and poor Internet access.

Nano City will consist of both residential and commercial buildings. Most of the residential space will be high-rise apartments, though there will be some single-family dwellings. The goal, says Bhatia, is to reduce auto travel and to avoid



imposing rigid zone regulations that separate business from family, in order to have less impact on the environment.

"Given the mass migration of populations in China and India from rural to urban areas, this is probably the only time in history that someone can build a city from scratch and hope to become successful at populating it," says Bhatia. "Once we build the core infrastructure—power, Internet, roads—we believe that Indian residents will start moving in."

The project is a joint venture between Bhatia and the state government of Haryana, which approved the project last September. Bhatia already has undisclosed real-estate developers on board for the project. In January, a team of professors and students from the University of California-Berkeley helped him survey the land and plan building strategies on location. Construction is scheduled to begin at the end of this year, with infrastructure in place by 2010.

Planning the city and attracting companies are crucial steps, but not the only ones. "You can't just build the technology infrastructure; you have to attract the talent as well," says Randall Baker, a business owner in Austin, Texas, who serves on the Greater Austin Chamber of Commerce. Austin (aka "Silicon Hills"), home to both Dell and Motorola, certainly has the infrastructure to support the knowledge worker of the future, who will increasingly rely on wireless access and FTTH (fiber to the home). Although Austin suffers from near-constant congestion, traffic runs smoothly there in comparison with Indian cities such as New Delhi, where it can take 2 hours to drive just a few blocks.

So how can Nano City become a macro-reality? According to analyst Stan Christensen, who teaches a course on sustainable development at Stanford University, Bhatia will need to develop a master plan for growth rather than rely on individual companies to make the city happen by buying small parcels.

Bhatia says he has started discussing infrastructure issues with nearby states and has met with local utility providers. He says the city will need to self-fund quickly to offset the \$2 billion in initial costs.

"For me, it is a great opportunity to do this right so that it becomes a model for the urbanization and modernization of India," Bhatia says.—John Brandon, freelance writer



## The Million-Dollar Recommendation

*Netflix offers a cool million to improve its movie recommendation feature.*

**T**HE FIRST TIME INDEPENDENT software developer Simon Funk learned about the so-called Netflix Prize, he was at the airport on his way to New Zealand. His friend Vincent DiCarlo had excitedly sent him an e-mail about "the contest from heaven," which will award \$1 million to the person or team who can best improve the company's movie recommendation engine, called Cinematch.

Currently, Cinematch offers recommendations for Netflix users based on their rental history and the ratings they've given returned DVDs. But Netflix customers have complained that the recommendations either are off the mark or suggest movies they've already seen.

According to the contest rules, a 30-day countdown will begin when a team achieves 10 percent improvement. Other teams can attempt to post a better score, but after that period, the best code will receive the prize. Netflix grants nonexclusive rights to the winner, meaning

that Netflix can use the software but the creator retains the right to profit from it independently. Steve Swasey, a Netflix representative, says that this way the contest could benefit the entire e-commerce world.

So far, the contest has attracted a mix of nonconformist programmers and university researchers—some hoping for big money and others using the contest as research or a learning tool. At the top of the leaderboard as of press time was a team of researchers from the University of Toronto calling themselves ML@UTorontoA. Team members Ruslan Salakhutdinov (a Ph.D. student) and Professor Geoffrey Hinton are using the contest to test their research in machine learning (a broad field of artificial intelligence that develops algorithms and techniques to help computers "learn"). Salakhutdinov also holds the third-place slot; he's posted results under his own username, NIPS Reject.

Netflix is keeping the contest open until at least 2011, or until someone can hit the 10 percent sweet spot.—Angela Chang, freelance writer



## FUTURE WATCH

### TAKING A SPIN

The future of city driving is here—and it's cute. The Nissan Pivo, a concept car introduced at the 2005 Tokyo Motor Show, looks as if it rolled straight out of a Saturday morning cartoon, and its animated mascot, named "Pivo-chan" doesn't help. But the Pivo's high-tech features are serious business. The main attraction is its revolutionary cabin: an egg-shaped, three-passenger pod that can rotate a full 360 degrees. Why back up when you can simply swivel around and drive away? And blind spots become a thing of the past, thanks to screens on either side of the windshield that display exterior surroundings normally blocked from view.

Under the adorable hood of the Pivo is a combination of drive-by-wire technology, a lithium ion battery, and a "super motor," which works to eliminate emissions and the need for mechanical or hydraulic systems. The Pivo remains strictly a concept car for now, but the concept is one sure to have a few heads spinning —Anton Galang



Fully rotating cabin

## Q & A

### LORD OF THE RINGS

The composer of Samsung's ringtones talks from Samsung headquarters in Seoul, South Korea, about the creative process and the equipment he uses. Because the competition between Samsung and crosstown rival LG is so intense, the company has asked us not to reveal his identity, for fear of poaching. The interview has been translated from his native Korean.



**Q:** So what is your job, exactly?

**A:** I design the ringtones and function/menu key sounds that best suit the concept of that particular phone. Basically, I am responsible for all sound-related aspects of a phone.

**Q:** What recording equipment and computers do you use when composing a ringtone?

**A:** It's similar to that of a regular professional musician. Also, we use software and hardware for ringtone solutions and Yamaha MA5 authoring tools.

**Q:** What types of music do you listen to?

**A:** I listen to musicians from classical to electronica. My favorite musicians are Ennio Morricone and Ryuichi Sakamoto. Sakamoto also designed ringtones at one time and gives me a lot of inspiration.

**Q:** Tell us about the creative process for writing and recording a ringtone.

**A:** First there is a theme for each cell-phone model. We compile a list of sounds that are suitable

or go along with the concept of the phone, and make a demo of the possible sounds that go with the phone. Within our team, we then discuss it and edit the sounds and apply the result to the phone.

**Q:** How do you feel when you hear one of your ringtones on the street?

**A:** Sometimes I feel awkward, but usually I'm proud to hear someone using my ringtone. I might hear someone use a ringtone that I made two or three years back, and I find myself checking to see how old the person is and whether the user is a male or a female. I can find out consumers' preferences through ringtones on the street. —Seth Porges, freelance writer

## THE 7 MOST RIDICULOUS E-MAIL HOAXES

1. The U.S. government plans to track homeless persons by implanting RFID chips in them.
2. Comedian Andy Kaufman has returned, 20 years after faking his death.
3. The BabyInk body art chain specializes in tattooing babies.
4. Florida's governor asked residents to reduce electrical usage during Ted Bundy's execution.
5. You can purchase human flesh through a company called ManBeef.
6. The 2003 California wildfires left the U.S. facing a severe toilet-paper shortage.
7. A Web site offers a device for performing laser eye surgery at home.

Source: [Snopes.com](http://Snopes.com)



## BEST OF THE INTERNET



### THE YOUTUBE "GET OUT OF IRAQ" CAMPAIGN

[www.youtube.com/watch?v=yQLZ9lrSY1Y](http://www.youtube.com/watch?v=yQLZ9lrSY1Y)

This viral video posted by warren25smash is of a young Brit asking other YouTube users to post video saying simply "Get out of Iraq." At press time, there were already over 200 video responses since it posted January 2.



### WOLFGANG'S VAULT

[www.wolfgangsvault.com](http://www.wolfgangsvault.com)

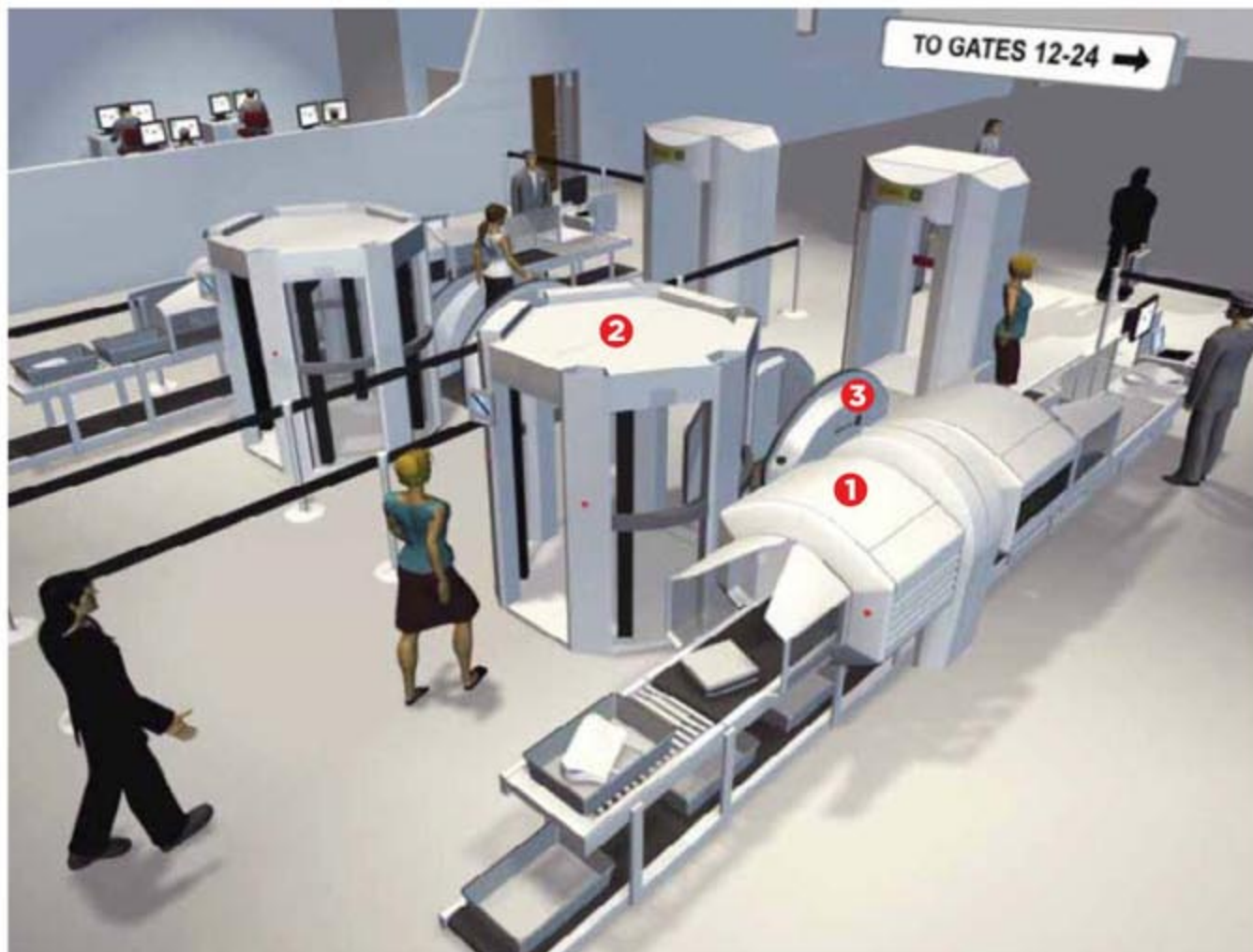
This controversial Web site (currently being sued) offers free streaming of live music from concert promoter Bill Graham's personal stash. Now you can pretend you actually saw Jimi Hendrix at Winterland.



### MY HERITAGE FACE RECOGNITION (BETA)

[www.myheritage.com/FP/Company/tryFaceRecognition.php](http://www.myheritage.com/FP/Company/tryFaceRecognition.php)

Registered users can upload their photos to find possible ancestors, but guests can try a demo that matches their face with those of celebrities, such as Audrey Hepburn (shown). You upload a photo and the program gives a list of best matches.



## Prepared for Takeoff

*A new airport checkpoint boosts security and reduces wait times.*

**Y**OU CAN FORGET THE SOCK-FOOTED passengers and the aggravating, long lines. Airport security is getting streamlined and pumped up, thanks to an experimental new security system. GE Security has created a checkpoint to speed up and enhance safety measures. The company is currently testing it at the San Francisco International Airport, using volunteers and GE employees.

In the new security checkpoint, travelers begin the screening process by passing through a kiosk that uses biometrics to verify identity. Then they press an explosives-detection touchpad called Trace, which performs a fingerprint scan and detects any traces of explosives on the finger. Automated baggage scanners (1) scrutinize carry-ons with greater detail. The machine uses computed tomography (the same technology used in CT scans) to generate a 3D image of a bag's contents. Laptops won't require individual screening, eliminating the hassle of removing them from their cases.

While their carry-ons are being scanned, travelers will step into an enclosed booth called the millimeter wave portal. (2) It uses millimeter waves, the highest radio frequency band, to project images onto a computer screen. Because clothing and other articles made from fabrics appear translucent within that frequency, the

portal can virtually scan under jackets and other apparel for hidden weapons.

The last stop is at a shoe scanner, (3) which uses *quadrupole resonance*, the same technology used in medical MRIs, to check shoes for suspicious items. Passengers won't even have to take them off.

"We are pretty confident that we could get passengers through it at 30 seconds or less," says Steve Hill, representative for GE Security's Homeland Protection business. "We would get them through without taking shoes or jackets off or laptops out of bags."

Although there is no exact date for the checkpoints' approval, certain elements, such as Trace and the shoe scanner, are currently being used in airports in conjunction with Verified Identity Pass (VIP), a TSA-sponsored program that makes expedited security lanes available to passengers who have paid an annual fee, undergone a background check, and submitted a fingerprint or iris scan. VIP is available at airports in Cincinnati, Indianapolis, New York (JFK), Orlando, and San Jose.

The new checkpoints will also reduce the chance for human error, because nearly all the equipment will be automated. "In the checkpoint of the future, you don't see very many operators," Hill says. "It could be as low as two or three people per lane."—Angela Chang



## DOES DAYTIME TV KNOW ITS TECH?

Sure, Oprah can make you feel good about yourself, Martha can show you how to make brioche in 73 easy steps, and Matt can flirt with Madonna. But do they really know which gadgets are best? We evaluate some of their recent high-tech recommendations.



OPRAH



MARTHA



THE TODAY SHOW\*



WE AGREE WITH...

	OPRAH	MARTHA	THE TODAY SHOW*	WE AGREE WITH...
PHONES	<b>BlackBerry 7105t</b> "The BlackBerry 7105t is a pre-premium phone featuring e-mail, Bluetooth, speakerphone, and a bright color screen."	None	<b>Palm Treo 680</b> "Screen is big enough to display agenda, contacts, notes and to-do items."	 The Treo 680 is easier to use, and Oprah's BlackBerry has been replaced with the Pearl.— <i>Sascha Segan</i>
AUDIO	<b>Apple iPod</b> "Watch up to 150 hours of video or slide shows of up to 25,000 photos on its bright 2.5-inch screen—now that's music to your eyes!"	<b>Nike + iPod Sport Kit</b> "This sensor-and-receiver system wirelessly connects your Nike+ shoes to your iPod nano for the ultimate workout."	<b>I-Fish Speaker from Hasbro</b> "Plug an MP3 player into this speaker and the fish lights up, makes sounds, and wiggles to the music."	 The iPod's great, but who doesn't know that? The Sport Kit offers a bonus for nano users.— <i>Dan Costa</i>
GPS	<b>Magellan RoadMate 700</b> "Out of the box the Magellan RoadMate 700 provides turn-by-turn voice prompts and text directions."	<b>Mio DigiWalker H610</b> "This personal GPS fits in your purse and can give directions for traveling or just walking."	None	None. Neither Oprah's nor Martha's choice is as good as the Garmin nüvi 660. It's the best shirt-pocket GPS on the market.— <i>Craig Ellison</i>
CAMERAS	<b>HP Photosmart 935</b> "Have photo fun with the HP Photo-smart Digital Camera."	<b>Nikon Coolpix S7c</b> "This camera takes crystal-clear, 7-megapixel photos. With built-in Wi-Fi, the S7c takes digicams to another level."	<b>Sony Cyber-shot DSC-N2</b> "At 10.1 megapixels, this camera snaps super-sharp digital photos."	 The Sony N2 combines great design with a useful touch screen and slide-show capabilities.— <i>Terry Sullivan</i>
VIDEO	<b>Dell 30-inch Widescreen LCD</b> "This TV's thin design saves space, and the widescreen format provides an excellent movie and HDTV experience."	<b>Hasbro Zoombox Projector</b> "It displays up to a 60-inch picture on your wall or ceiling for a bigger and better entertainment experience."	<b>Sharp Aquos LC-37D90U Plasma HDTV</b> "Super-sharp resolution and great contrast make the Aquos a picture-perfect 37-inch widescreen."	None. Oprah's pick is a PC display, not an HDTV, and Martha's pick is for kids. <i>Today</i> is not as far off the mark, however.— <i>Robert Heron</i>

\*Includes recommendations from MSNBC Gift Guide.

## GEARLOG

### THE SMART UMBRELLA

For all the benefits that the umbrella offers, it has one glaring flaw: No matter how gigantic or water-repellent it is, if you leave it at home you are going to get wet. Ambient Devices is hoping to remedy that flaw with the Ambient Forecasting Umbrella.

Still under development, the Forecasting Umbrella will let you know at a glance whether you need it. An LED in the handle pulses according to the chance of precipitation by means of a data-radio in the handle that receives information from [AccuWeather.com](http://AccuWeather.com). If the chance of rain is 60 percent, the umbrella handle pulses once every second. If the chance is 100 percent, it pulses 100 times a minute.—*Andre Bermudez*





# CONNECTED TRAVELER



**IF YOU'RE HEADED TO . . . WHISTLER, BRITISH COLUMBIA, CANADA** With more than 5,000 vertical feet and two giant mountains, the top-rated ski resort of Whistler Blackcomb will satisfy skiers of any skill range. Whistler is also a resort town that boasts more than 20 spas, a museum and a bustling nightlife. You can also tap into the Internet virtually anywhere in the village, through individual hotels and cafés or a community-wide network called "yodel." The mountains themselves get great cell-phone coverage, so you can stay connected no matter how high up you are.—Anton Galang



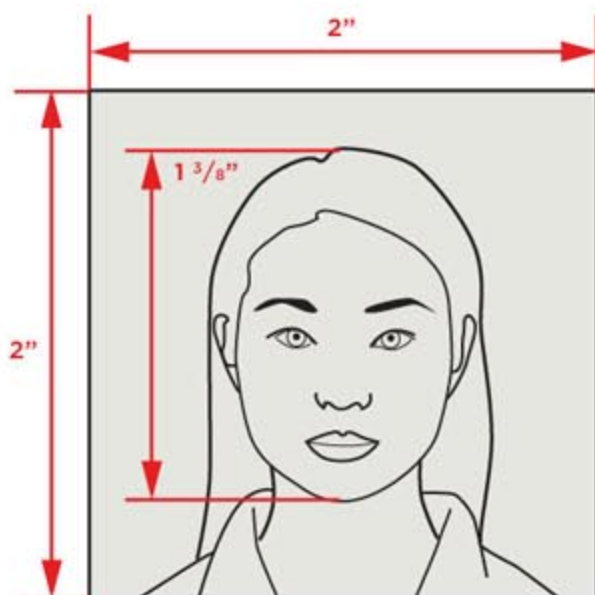
## UVEX F1 MAGIC SKI GOGGLES

Uvex has made the first goggles that automatically adjust to changing light conditions. Dyed liquid crystals are sandwiched between two transparent lenses. Pressing the small button behind the strap on the right-hand side sends a charge across the plates, making the crystals align to darken the goggles. The Duracell 28L lithium battery has a 200-hour life. (\$210, [uvexsports.com](http://uvexsports.com))—Paige Greenfield, freelance writer



## GIRO OMEN HELMET

When it comes to helmets, Giro is pretty much king of the hill. In addition to being featherweight and easy to adjust, the Omen is compatible with Giro's TuneUps Wireless system. Using Bluetooth technology, the modular speaker pods (which comfortably snap into the helmet's ear flaps) sync up with your iPod and Bluetooth-enabled phone. For easy access, all the controls are located on the ear pods. (\$199, [giro.com](http://giro.com))—PG



## DIY Passport Photos

Doing your own passport photography isn't hard, if you know and adhere to the guidelines. The U.S. Department of State requires duplicate 2- by 2-inch photos of you taken within the prior six months. Digital images are acceptable if they "have a continuous tone image that looks very photo-like." Sounds simple enough, but here are some guidelines in case you want, as I did, to go it alone:

- Use a decent digital camera with a strong flash and at least 5 megapixels.
- Zoom in close enough to frame the head and shoulders.
- Before resizing your image or cropping it, be sure that your subject's image has, as stipulated by the federal government, from 1 to 1 3/8 inches of space between the base of the chin and the top of the head.
- Once you have a good 2-by-2 photo, paste it onto a new 4- by 6-inch canvas. You should be able to fit two of these images onto the page side by side.
- Use a scissor or razor blade to cut right along the edge of the images, eliminating any white borders.—Lance Ulanoff



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XM Satellite Radio available for a reasonable \$199

## SATURN AURA

\$20,595 to \$27,769



**MILEAGE** 20 mpg city/38 highway (XR)

**PROS** Good performance from upscale XR model (reasonable performance from entry XE). Variable valve timing, stability control, OnStar telematics service standard.

**CONS** Light on technology offerings, compared with class leaders. Cockpit materials not quite in a league with Toyota Camry, Honda Accord. No navigation, Bluetooth, or iPod adapter options.

### » NEED MORE REVIEW?

Check out Bill Howard's extended analysis of the Saturn Aura at [go.technoride.com/saturnaura](http://go.technoride.com/saturnaura)



## GM'S WORLD-CLASS HIT

**W**ITH THE SATURN AURA, GENERAL Motors finally has a world-class car with broad buyer appeal. The Aura provides flair and performance in a medium-large sport sedan at a top price that's barely over \$25,000. The options list isn't that long or technical, however, and that's Aura's smallish Achilles heel.

Slide behind the wheel of the upscale Aura, the XR, and you'll notice paddle shifters, power-adjustable foot pedals, and a restrained dashboard. In the XR you get a 3.6-liter, 262-hp V6 engine with double overhead camshafts, variable valve timing, a drive-by-wire throttle, a six-speed automatic transmission, and the paddle shifters, called TAPshift.

Out on the highway, the Aura is quiet, thanks to its double-layer windshield glass and a steel-laminating technology called Quiet Steel. OnStar service is built in, and the first year is paid for.

The Aura XR's audio system includes a six-disc MP3 CD player, 240 watts of amplification, and a dash-mounted line-in jack. XM Satellite Radio is available for \$199 (reasonable), but there is no Apple iPod adapter option. No navigation system is available for the Aura (unlike cars from Honda and Toyota, which have first-rate systems). Nor is Bluetooth, which Toyota and Honda offer also. GM and Saturn could have used the Aura to leapfrog the competition with entertainment offerings such as a USB key or memory card slot, or even an in-dash hard drive. So our rating of 3.5 might best be seen as a 4 for the car in general, lowered by the light advanced-technology offerings.—Bill Howard

## RINSPEED EXASIS: A CLEAR CONCEPT

Rinspeed is celebrating its 30th anniversary with a concept car called the eXaxis, constructed out of translucent high-tech plastic. With open wheels, a cigar-shaped body, and tandem seating, the eXaxis's design is reminiscent of the legendary Auto Union race cars. The car is powered by a 150-horsepower, supercharged two-cylinder 750cc engine that burns eco-friendly bioethanol. The eXaxis will be shown for the first time at the Geneva Auto Show in March.—Errol A. Pierre-Louis



## HYBRID BUS USE GROWING

The next revolution in hybrid vehicles is under way, in the stop-start world of transit buses: Around 20 percent of all transit buses are now hybrid diesel-electrics. The installed base of hybrid buses in North America is expected to grow by over 70 percent in the next year alone.

Hybrid diesel-electric technology makes a lot of sense for city buses. All that stopping and starting means that regenerative braking keeps batteries running longer. And with 30 percent lower emissions and the recent introduction of ultra-low-sulfur diesel (ULSD) fuel, hybrid buses are not only efficient but eco-friendly as well.—EAP





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# FIRST LOOKS

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●●●●● EXCELLENT  
●●●●○ VERY GOOD  
●●●○○ GOOD  
●●○○○ FAIR  
●○○○○ POOR

## BIG BUSINESS

We have business to thank for getting the PC off the ground some 25 years ago. So it's only fitting that business should reap the benefits of solid, dependable office boxes like the new Gateway E-6610D SB and Samsung's spiffy, 30-inch SyncMaster 305T. That's right, big screens are not just for games, they're also for word docs and spreadsheets living side by side, in harmony. You'll find our reviews on pages 49 and 50.

This issue also covers Bluetooth headsets, a wireless home video delivery solution from Ruckus, the latest shirt-pocket GPS, Canon's Pixma All-in-One printer, Microsoft's finally-out-of-beta Office Live, and 24 more intriguing products.

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HELIO DRIFT

## HIP CELL TARGETS MYSPACE HORDES

### Helio Drift

\$225 direct



**PROS** Looks terrific. Nice interface. Good voice quality. Good camera.

**CONS** Annoying Bluetooth settings. Not many people have Helio, making it hard to use mobile-to-mobile minutes.

**R**IGHT NOW, HELIO IS ABOUT LOOKS, STYLE, and attitude as much as it is about cellular services. The Drift—Helio's cool white handset (made by Samsung)—offers a unique and elegant WAP-based MySpace client that lets you read blogs, post comments, and upload pictures. That MySpace client is going through some serious growing pains, though; when I was surfing MySpace, photos often didn't appear. Helio said the servers were overloaded.

Fortunately, the Drift's user interface has the easy, effortless cool of the T-Mobile Sidekick, and Helio's video offerings are decidedly youth-focused. HOT, a free app that displays news and entertainment headlines on your home screen, works flawlessly and is fun to use.

Helio's new hook is Buddy Beacon, a mashup of GPS, Google Maps, and social networking that shows you where your Drift-wielding friends are (with their permission). The company's PC "media mover" software does an unusually good job of

reformatting videos as well as MP3 and AAC music files and transferring them to the phone. Still, the Drift doesn't sync with Windows Media Player or iTunes, which many other music phones do.

Pictures taken with the Drift's 2-megapixel camera were beautifully sharp but a bit dark. The video mode takes 320-by-240 videos at 14 frames per second, good for a camera phone.

The 3.4-ounce phone will neither bulk up nor weigh down your pocket, and it has a razor-sharp 320-by-240 color screen and big, if flat, keys. The Drift gets strong reception on Helio's (really Sprint's) network and supports Bluetooth headsets. Voices sound sharp both coming and going. I got 3.5 hours of talk time.

Helio's mix of hipster cred and social networking is appealing. The Samsung Drift can kick you into MySpace without losing any of the latest phone features, which makes it my choice for this network. —Sascha Segan

>> For more: [go.pcmaq.com/drift](http://go.pcmaq.com/drift)





#### PHAROS DRIVE 140

### MULTITALENTED, NOT PERFECT

**Q**UALIFYING AS AN EXCELLENT PORTABLE GPS device these days is getting more difficult: It's not just about the navigation anymore. Pharos's new Drive GPS 140 is a dedicated GPS/entertainment device that offers MP3, photo, and video playback in addition to helping you find your way.

The Drive 140's 4-inch, 24-bit color display is nothing to complain about; you can see lots of data on the 480-by-272, 16:9 format screen. In addition, the Drive 140 features a powerful 20-channel SiRF Star III GPS receiver chipset. On my road tests, the Drive 140 generated accurate routes. But it doesn't have text-to-speech capabilities, and search options for Points of Interest (POIs) are limited.

Though the device's MP3 player played tunes without incident, the picture viewer took a while to render large images properly. For video, the Drive 140 supports WMV and AVI files; playback, however, was a bit jumpy.

You can use the system's Bluetooth phone interface to make and receive calls, but it's not integrated with the onboard Points of Interest database, so you can't dial a POI after you find it.

The Pharos Drive 140 has a good set of features, especially its big 4-inch screen. If only the Drive 140's navigation software were a little more robust and had text-to-speech capabilities, it would be an easy choice.—Craig Ellison

>> For more: [go.pcmag.com/pharos140](http://go.pcmag.com/pharos140)

#### Pharos Drive 140

\$549.95 list

●●●○○

**PROS** Large, 4-inch screen. Sensitive GPS receiver. Built-in players for music, pictures, and videos.

**CONS** Can search only nearby POIs, not ones in other locations. Reflective screen shows fingerprints. Jerky playback of full-screen WMV video files.

Small size makes transport a snap



#### AVERATEC VOYA 320

### NAVIGATE ON A BUDGET

**M**ORE FEATURES FOR LESS MONEY IS always a good thing. That's why Averatec's latest GPS device has the power to please. Measuring 4.3 by 3.1 by 0.8 inches and weighing 6 ounces, the Voya 320 slips neatly into a shirt pocket. Despite its small stature, you get a sizable 3.5-inch screen, plus a second-generation SiRF Star III chipset that provides a formidable lock on satellites even in difficult reception areas.

As an MP3 player, the Voya 320 has features that are quite bare-bones. For example, there's no support for playlists, and you can't shuffle songs. But it played AVI, WMV, and MPEG videos smoothly and displayed every JPEG picture I tried to view.

The Voya 320's menu system is easy to learn and intuitive to use. On the road, my tests yielded no surprises. Routes generated were the same as those created on other Navteq-based devices. Sadly, the GPS doesn't offer modes for pedestrians or bicyclists, and it lacks text-to-speech capabilities.

Overall, I liked the Voya 320. If fancy music features aren't essential, but saving money is, then it's a very compelling value.—CE

>> For more: [go.pcmag.com/voya320](http://go.pcmag.com/voya320)

#### Averatec Voya 320

\$299.95 direct

●●●○○

**PROS** Menu system is easy to learn and use. Sensitive second-generation SiRF Star III receiver. Outstanding value.

**CONS** Weak suite of multimedia players. No routing profiles for bicycles or pedestrians.





Rings make the fit secure

Bluetooth plug uses 3.5mm stereo jack

iPod not included

**Logitech FreePulse Wireless Headphones**

\$99.99 list

●●●●○

**PROS** Excellent value. Attractive styling. Decent bass. Good range. Built-in remote.

**CONS** Not particularly comfortable. Sound lacks detail and spaciousness.

LOGITECH FREEPULSE WIRELESS HEADPHONES

**TUNES UNTIED**

**N**EEED A LOW-COST SOLUTION TO THE tangle of wires attached to your MP3 player? Logitech's new product promises to eliminate unwieldy wires—for less than \$100, to boot.

Though these stylish headphones are easy to put on, they aren't very comfortable, and the Bluetooth adapter is somewhat bulky. The right side of the FreePulse headphones contains its controls. There's a power switch that also engages and disengages Logitech's Bass Boost feature, along with an AC power jack and a built-in volume control. Track-skip and rewind controls would have been welcome, but you can't have everything.

I found the FreePulse's sound quality essentially indistinguishable from that of the headphones that came with an old Sony Discman or Walkman. With the bass boost engaged, the low end consists mostly of mid-bass to upper bass with some punch, but not quite the real thing. On the other hand, it was simple to pick out the bass guitar on many tracks.

Think of the Logitech FreePulse wireless headphones this way: You're paying \$19.99 for a decent set and \$80 for the Bluetooth. As long as you're not expecting audio nirvana, these headphones can do the job nicely.—*Jamie Lendino*

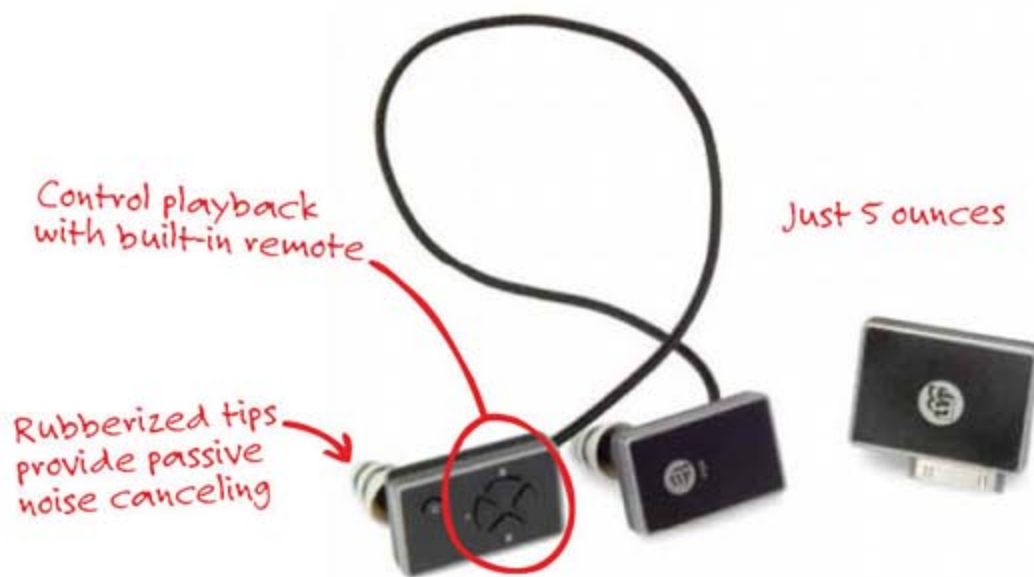
>> For more: [go.pcmag.com/freepulse](http://go.pcmag.com/freepulse)

ETYMOTIC ETY8

**NO CORDS, LESS NOISE**

**S**HAPED LIKE ODD, BLACK RECTANGLES, these lightweight Bluetooth headphones sport two in-ear earbuds connected by an irritating nylon cord. Hanging the cord behind your neck transmits booming sounds to your ears, and placing it in front of you looks plain silly. An optional (\$100) 8-Mate iPod adapter enables the Ety8 to play tunes residing on the popular player. I also liked the headphones' built-in remote.

Audio tests yielded mixed results. Midrange sound was smooth and neutral, and the highs sparkled without any trace of hash or harshness. Though 128-Kbps AAC tracks purchased through iTunes exhibited obvious flaws, tracks encoded with high-bit-rate AAC or Apple Lossless sounded



Control playback with built-in remote

Rubberized tips provide passive noise canceling

Just 5 ounces

impeccable. The Ety8's sound also got plenty loud. Still, you won't be blown away by the bass response. Strangely, when I engaged one of my 5G iPod's EQ presets, I heard loud, repetitive clicking on bass notes. I measured 8 hours 55 minutes of continuous music playback before the headset shut down—well within the claimed 6- to 10-hour range.

The Ety8's EQ-related anomalies are unfortunate, but the sound is still pretty good for wireless headphones. If you can live with the odd appearance, these are worth trying out.—*JL*

>> For more: [go.pcmag.com/ety8](http://go.pcmag.com/ety8)

**Etymotic Ety8**

\$199.99 list

●●●●○

**PROS** Clear, transparent sound quality. Decent Bluetooth range. Very lightweight. Built-in remote. Solid battery life. Slim iPod adapter.

**CONS** Truly strange styling. Irritating cord. Some audio anomalies on material with strong bass. Expensive.





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BUYING GUIDE

# Superzoom Digital Cameras

## PANASONIC LUMIX DMC-FZ50

\$649.95 list



Our new high-end superzoom Editors' Choice has a 12X optical zoom lens, an excellent feature set (including a zoom-and-focus ring), and a hot shoe for attaching an external strobe.

Optical image stabilization helps avoid blur in pictures taken in low light or with the zoom at its telephoto setting.

The FZ50 features 10-megapixel resolution. ISO range is now up to 1600, although my test shots did see noise creeping in at around 800 ISO. There's even a new 16:9 movie format, which is 848-by-480, slightly larger than VGA.

Still, there's room for improvement. The FZ50 is big, bigger even than some D-SLRs. It's also quite pricey. And I think that the LCD could be larger and the camera's burst mode more robust. Nonetheless, this superzoom is a terrific buy. —Terry Sullivan

>>For more: [go.pcmag.com/fz50](http://go.pcmag.com/fz50)



**D**IGITAL SINGLE-LENS REFLEX (D-SLR) cameras were the media darlings of 2006, boasting new features and lower prices. But camera manufacturers have also made strides in other categories this year, including superzooms—digital cameras that have a 10X optical zoom or greater.

Like their D-SLR counterparts, superzoom sensors have higher megapixel counts than in previous years, generally ranging from 6 to 10 megapixels. But these cameras often cost less than a D-SLR. On the lower end of the superzoom spectrum you'll find some bargain point-and-shoots for around \$250. This type of superzoom is generally noticeably

smaller than a D-SLR. The more expensive, full-featured superzooms can cost as much, or even a bit more, than a D-SLR, anywhere from \$550 to \$650.


Unlike D-SLR lenses, superzoom lenses cannot be detached from the body of the camera. But that's important only if you frequently switch lenses while shooting. For many avid photography fans, a superzoom is the perfect all-purpose camera.

**FIND YOUR FOCAL LENGTH** One technical spec that is bound to confuse many people who are shopping for a superzoom is the focal length, or size, of the lens. When listing a camera's specs, the manufacturer usually describes the focal length as, for example, 6.3mm to 63mm, followed by a parenthetical statement such as "equivalent to a 38mm to 380mm

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## DIGITAL SUPERZOOMS IN REVIEW

Products are listed from best to worst by rating.  denotes Editors' Choice.

PRODUCT NAME	RATING	PRICE	RESOLUTION	OPTICAL ZOOM	BOTTOM LINE
 <b>Panasonic DMC-FZ50</b>	●●●●○	\$649.95 list	10MP	12X	<b>THE BEST:</b> This Lumix offers D-SLR-like quality and performance. Can shoot video in standard or 16:9 format at 30 fps.
 <b>Panasonic DMC-FZ7</b>	●●●●○	\$400 street	6MP	12X	<b>BUDGET:</b> An electronic viewfinder, a 2.5-inch LCD, and image stabilization garner this Lumix our Editors' Choice for a budget superzoom.
<b>Canon PowerShot S3 IS</b>	●●●●○	\$499.95 list	6MP	12X	<b>A HIGH PRICE TO PAY:</b> There's a lot to like about this superzoom, including image stabilization, but the price is steep.
<b>Fuji FinePix S6000fd</b>	●●●●○	\$499.95 list	6.3MP	10.7X	<b>VERSATILE:</b> Pricey—this superzoom handles a variety of picture-taking situations well, however, and it shoots great video.
<b>Fuji FinePix S5200</b>	●●●●○	\$399.95 list	5.1MP	10X	<b>ON THE SMALL SCREEN:</b> Takes good-quality stills and video clips. Its LCD could be bigger.
<b>Panasonic Lumix DMC-TZ1</b>	●●●●○	\$349.95 list	5MP	10X	<b>UNDERACHIEVER:</b> Compact superzoom shoots great pics but lacks manual controls and the ability to shoot in RAW.
<b>Kodak EasyShare V610</b>	●●●●○	\$449.95 list	6MP	10X	<b>BLURRING BOUNDARIES:</b> Blurs the boundaries between ultracomacts and superzooms. Still, it needs to focus more on quality.
<b>Sony Cyber-shot DSC-H5</b>	●●●●○	\$499.95 list	7.2MP	12X	<b>A REAL LOOKER:</b> It's a nicely designed camera, but the H5's performance falls short with significant shutter lag and a weak burst mode.
<b>Olympus SP-510 UZ</b>	●●●●○	\$329.99 list	7.1MP	10X	<b>NOT SO HELPFUL:</b> The EasyShare V610 helps you select the best shooting mode; it skimps a bit on the wide-angle end of the zoom.
<b>Samsung Pro815</b>	●●●●○	\$630 street	8MP	15X	<b>HIT-OR-MISS:</b> Though the Pro815 has some great features, it suffers from autofocus issues, inadequate menus, and limited video abilities.

>> For more digital superzoom reviews online: [go.pcmag.com/digitalcameras](http://go.pcmag.com/digitalcameras)

lens on a 35mm camera." The reason for this double spec is that although some D-SLRs have full-frame sensors, most digital cameras have sensors that are smaller than the size of one frame of 35mm film, which results in a different focal-length range. In order to express this range in a more understandable and consistent way, the camera manufacturers provide this "35mm equivalent" range, since more people are familiar with this terminology.

And knowing what range you have is important. Often, consumers seem interested only in the telephoto end of the zoom lens, which helps when capturing details or shooting from a distance. But you should also carefully consider the focal length of the wide end of your zoom length, which gives you a greater depth of field. Having a zoom that begins at 28mm will let you produce dramatic compositions.

**TAKE STEADY SHOTS** Of course, don't overlook the telephoto end of your superzoom, either. Just be sure that your superzoom includes some type of antishake technology. The best type is optical hardware, called optical image stabilization (IS), which attempts to counteract the natural movements of your hands. So when you've zoomed in to 10X or 12X—a range that actually amplifies the impact that shaky hands have on image clarity—optical image stabilization steadies the lens for clear, sharp shots.

Some digital cameras feature electronic or digital IS, which most often simply boosts the camera's ISO or sensitivity in order to allow the camera to fire at a higher shutter speed. This can be somewhat effective in limiting shake. But boosting the camera's ISO too high is liable to result in excessive noise.

**LCDs, RAW, AND VIDEO** Like most point-and-shoot digital cameras, some superzooms have articulating LCDs, which swing out from the camera body. Most superzooms come with electronic viewfinders (EVFs), which are tiny LCDs placed inside the viewfinder; this feature can be very useful for shooting in bright light.

Some superzooms offer a full range of manual functions, including the ability to shoot in RAW format. Benefits of shooting in RAW include unmatched creative control in correcting, manipulating, or cropping images. It's a feature available in all D-SLRs but in relatively few point-and-shoots.

Up until this point, you might not see the advantage of choosing a superzoom over a D-SLR. One advantage, however, is video. Unlike D-SLRs, superzooms can shoot video. Still, the quality of the video captured on digital cameras varies quite a bit. Be sure you can capture video that's at least VGA quality, or 640 by 480 pixels; and make sure the frame rate is at least 30 frames per second, since anything



**Fuji FinePix S6000fd**  
Uses face-detection technology.



**Kodak EasyShare V610**  
A superzoom that could pass for an ultracompact.





## EXPERT VIEW

BY TERRY SULLIVAN

### THINK BEYOND PRINTS

A

S A KID, I WAS CAPTIVATED BY FLIPBOOKS. THESE primitive animations consist of a series of images that vary slightly from one page to the next. When you view the pages quickly in succession by literally flipping the pages, the images appear to blend from one to the next to create a little animated movie.

Fast-forward to the present day. Recently, I was twice reminded of this fascination. The first occasion was when the professional photography magazine *Photo District News* ran a brief article about the extraordinary photojournalist Ed Kashi, who developed a flipbook based on several series of photo essays he created while in Kurdistan. (You can see Kashi's project at [mediastorm.org/0011.htm](http://mediastorm.org/0011.htm)). It's a moving piece that combines exquisite photography, storytelling, and music.

The second encounter that rekindled my interest was a recent article by Lance Ulanoff entitled "A 'Scary' YouTube Journey" ([go.pcmag.com/youtubecolumn](http://go.pcmag.com/youtubecolumn)), which details his experience creating an online flipbook while carving his Halloween jack o' lantern with his wife and kids. He goes on to describe some of the camera techniques he used and to point out some pros and cons of

using Adobe Premiere Elements 3.0 to put it all together.

What really struck me about these projects is that, both in the professional photography world and among photo enthusiasts, we're moving beyond the single, still, photographic print. By using software such as Adobe Premiere Elements 3.0, Sony's Vegas 7, and Corel's Snapfire, to name a few, you can generate incredibly expressive works of art in the form of flipbooks, slide shows, or both. You can even add video to the mix by using many of these programs.

A digital superzoom can be a huge help when creating a flipbook. For example, the Canon PowerShot S3 IS has an Intervalometer feature, a rather intimidating-sounding tool that lets you automatically capture a set number of images at predefined intervals, anywhere from 1 to 60 minutes between shots. Shoot your kids playing ball or the moon rising and setting—it's up to you.

There are unlimited options for your flipbook projects. For starters, you can check out Daryl Lang's article "Flip Book: The Next Big Thing, or Old News?" on the *Photo District News* Web site to see what's been done by some pros ([www.pdnonline.com](http://www.pdnonline.com); in Advanced Search, plug in "Lang" for author and "flip" for keyword).

less than that tends to generate jerky video, especially when there's lots of action.

It's important that your camera lets you capture video to the capacity of your memory card. You don't want to be forced to record 30-second clips, then try to stitch them together in a video-editing program. Also, find out whether you can zoom during filming and whether the camera will refocus when you do zoom in. Read the specs very carefully to determine whether the camera uses only digital



#### Canon PowerShot S3 IS

A superzoom that offers lots of control.

zoom during filming, a practice that almost always results in degraded video footage. The best superzooms include a zoom-and-focus ring that ensures both full optical zoom capabilities and virtually noiseless zoom operation.

**TOP OF THE LINE** If you want it all, reach for the 10MP Panasonic Lumix DMC-FZ50, which sports a 12X optical zoom lens with Mega O.I.S. optical antishake technology to produce sharp shots in a variety of situations. And although the size of the LCD is just 2 inches, it does articulate.

**BUDGET** If money's tight, Panasonic has another superzoom that will do the job, the 6MP DMC-FZ7 with a 10X optical lens. Like the FZ50, the FZ7 has Mega O.I.S. optical antishake technology, but you won't find an articulating LCD on this camera.

**FASHION CONSCIOUS** Those who want a superzoom with a little more style and some neat features should take a serious look at the 6MP Canon PowerShot S3 IS, which has a 12X optical zoom, an articulating LCD, and a nicely designed camera body.

**SUPER COMPACT** Finally, if you want a superzoom that's really an ultracompact, check out the Kodak EasyShare V610, the first superzoom to have two lenses and two sensors. Even so, it retains a super-sleek form factor that's impressive, although the lack of optical image stabilization is disappointing. The V610 also has Bluetooth capabilities, which let you transfer or print wirelessly.

But no matter how advanced your superzoom, it's still up to you to take a meaningful picture.—TS



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CANON PIXMA MP960 PHOTO ALL-IN-ONE

## A PHOTO LAB ... AND THEN SOME

**Canon Pixma MP960**  
**Photo All-In-One**  
 \$399.99 list



**PROS** Dual paper feed. Duplexes. Scans 35mm film and prints directly from cameras, memory cards, and 35mm film.

**CONS** No ADF. No fax support.

**T**HE MP960 IS WHAT I TEND TO CALL A "photo lab AIO." You can use it as a printer, scanner, and standalone copier, but unlike office-centric AIOs, it can't fax and doesn't have an automatic document feeder (ADF) for multipage documents. Instead, the MP960 offers 35mm film scanning and the ability to print directly from 35mm film, as well as from PictBridge-enabled cameras and memory cards. Add in terrific photo output quality and a 3.5-inch color LCD for previewing photos before printing, and you've got a top-notch home photo lab.

The MP960's graphics output is easily good enough for internal business use. Text quality is just short of what I expect from a laser printer, which means it's *extraordinary* for an ink jet. All the standard fonts in our test suite were easily readable at 4 points; even a heavily stylized font with thick strokes passed the readability test at 20 points.

Every photo I printed from our test suite displayed true photo quality. The only flaw worth mentioning was a slight tint in one monochrome test photo. Just as important, photos printed directly from slides or copied from prints displayed the same high quality.

The MP960's speed is best described as good but not great: The printer finished our business applications suite in 14 minutes 26 seconds. Photo speed was better than that of other AIOs, averaging 54 seconds for each 4-by-6 photo and 1 minute 52 seconds for each 8-by-10.

Choosing between the MP960, with its better print quality, and another AIO with faster speed on business applications can be a tough call. But in the end, photo quality is what counts most for a photo lab AIO, and the MP960's is good enough to make it our Editors' Choice.—M. David Stone

>>For more: [go.pcmag.com/pixmamp960](http://go.pcmag.com/pixmamp960)



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Love-it-or-hate-it green

### Alienware Aurora m9700

\$3,934 direct



**PROS** / like the green, but you might feel differently. SLI graphics. Plenty of RAM. Full-fledged Media Center.

**CONS** Single-core processor. Noisy mouse buttons.

### ALIENWARE AURORA M9700

## PLAYING FOR KEEPS

**W**ITH ITS BRIGHT METALLIC-GREEN PAINT job and signature alien emblem, the Aurora m9700 is meant to inspire both fear and longing among the gaming cognoscenti. As if that's not enough, its SLI nVidia graphics will tear apart the latest 3D games.

The m9700's bright 17-inch screen carries a full 1,920-by-1,200 resolution, and its keyboard is great for punching in commands. I just wish the touchpad were more responsive and the mouse buttons not so noisy.

I was a little disappointed that the m9700 had a 2.4-GHz single-core AMD Turion 64 processor rather than the dual-core AMD Turion 64 X2s now available. When you're dropping \$4,000 on a laptop, you tend to expect top-of-the-line components. SYSmark 2004 SE scores for the m9700 reflect the slower processing speed. Luckily, gaming does not take a hit. The m9700 surpassed the Editors' Choice Dell XPS M1710 on 3DMark05 tests, scoring 14 percent better at 1,024-by-768 resolution and 30 percent better at 1,920-by-1,200. Its Adobe Photoshop CS2 scores showed no signs of slowing, thanks to its 2GB of system RAM. Video-encoding scores did take a hit, though—the m9700 needed 12 minutes to finish our Windows Media Encoder test.

In the end, if gaming is your first—and only—priority, then the m9700 is the laptop you need to leave your competition panting. —Cisco Cheng

>> For more: [go.pcmag.com/auroram9700](http://go.pcmag.com/auroram9700)

### EMACHINES T5212

## THIS DESKTOP'S JUST RIGHT

**N**OT EVERYONE OUT THERE NEEDS THE LATEST, greatest desktop. For those looking for a system that can keep up with everyday life without blowing their budget, the T5212 may just fill the bill.

The T5212's dual-core Intel Pentium D 805 processor is plenty fast for surfing sites with rich content. It performed reasonably well on our Windows Media Encoder and Adobe Photoshop CS2 tests, finishing them in roughly 10 minutes and 2 minutes, respectively.

With its dual-core CPU, 1GB of RAM, 250GB hard drive, PCIe x16 expansion slot, and integrated graphics, the T5212 is nominally ready for Microsoft Windows Vista. To take advantage of Vista's new 3D-style Aero interface, however, you'll want to upgrade to a discrete graphics card such as the ATI Radeon X1300 or the nVidia GeForce 6600 (or go even higher-end if you also want to play 3D games). As is, the system is still powerful enough to do basic multimedia tasks in both Windows XP and Vista.

The eMachines T5212 is an excellent basic PC for the general-purpose user. Just about everyone will be able to find a use for it. —Joel Santo Domingo

>> For more: [go.pcmag.com/emachinest5212](http://go.pcmag.com/emachinest5212)

### eMachines T5212

\$570 direct



**PROS** Inexpensive for a dual-core system. Vista-ready. Good availability in retail channels.

**CONS** Boring styling. Outpaced by Core 2 Duo systems. Bloatware. No TV tuner. Included Internet Security subscription lasts only 90 days.

Substance over style







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## RUCKUS MEDIAFLEX ROUTER AND ADAPTER

## FLICKS WITHOUT THE FLICKER

**Ruckus MediaFlex Router and Adapter**

Router, \$159 direct; adapter, \$99

●●●●○

**PROS** Excellent coverage throughout the house. Great throughput, strong signal, reliable video streaming.

**CONS** Router provides only basic capabilities. A bit pricey compared with conventional routers. Needs a setup wizard and better quick-start guide.

**S**TREAMING VIDEO THROUGHOUT YOUR home places huge demands on a wireless network, but this pair of devices handles the task with aplomb. The Ruckus MediaFlex router has a single WAN (Internet) port and four LAN ports. The client adapter accepts just one Ethernet connection but supports multiple MAC addresses, so you can connect a switch if you need more ports.

The MediaFlex router builds in support for WEP, WPA-PSK, and WPA2 security (as does the client adapter). It lacks, however, a Stateful Packet Inspection firewall, a DMZ, and the ability to restrict MAC addresses. It does do network address translation as well as port forwarding, and has a DHCP server for assigning LAN IP addresses, but other than that, its routing features are pretty basic. Still, although its packet-directing features may be less than impressive, it certainly delivers on its claimed ability to stream video reliably throughout the house.

In my condo community, a typical scan of the 2.4-GHz band reveals from seven to ten access

points—a challenging test environment. Yet even in rooms where I have the most difficulty getting a wireless connection from my office, I measured overall throughput of 19.6 Mbps 99 percent of the time during my evaluation. On a separate test, the video stream to a laptop (connected via the Ruckus client adapter) averaged 5 Mbps, with peaks of a little over 7 Mbps. In virtually every room, I got rock-solid video, even when I simultaneously transferred a large file to the laptop.

The Ruckus MediaFlex wireless router lacks some of the features that you'd normally find on consumer routers, and the hardware costs a bit more than it should. Also, the setup process can be confusing because the device uses two SSIDs (one for its proprietary client adapters and another for standard wireless adapters), so I'd like to see a wizard-based installation routine and a better quick-start guide. But for reliably streaming video anywhere in a house, this hardware pair makes a solid choice. —Craig Ellison

>>For more: [go.pcmag.com/ruckusmediaflex](http://go.pcmag.com/ruckusmediaflex)



BELKIN CABLE-FREE USB HUB

## IS WIRING EXPIRING?

**C**ABLE CLUTTER MADE OUR LIST OF THE PC's top ten problems in our August 23, 2005 issue, and we cited ultra-wideband (UWB) wireless as a possible solution for connecting devices over short distances. So when that hypothetical solution became a reality in the form of the Belkin Cable-Free USB Hub, I was rarin' to test.

Your peripherals connect to the four-port USB hub, which integrates a UWB transceiver. The included UWB dongle plugs directly into a USB port on your laptop or into an extension base (also included) that you can move to whatever spot gives you the best wireless performance. Unlike traditional USB hubs, which self-configure when plugged in, this one requires you to install a number of drivers, run a utility, and pair the two UWB devices by entering a 12-digit MAC address found on the bottom of the hub. The process sounds complex, but you need to do it only once. I had every-

thing running in minutes. The utility also lets you configure operating channels and speeds, monitor signal strength, and see packet counts.

I placed the hub 8 feet from the dongle in my IBM ThinkPad T40, accepted the default settings of Auto for channel selection and speed, and transferred files between my laptop and memory cards (a SanDisk 1GB Ultra CF and a Kingston 2GB Ultra SD SanDisk in a SanDisk universal reader connected to the hub). Signal strength bounced around from 70 to 90 percent. Unfortunately, throughput using the hub was significantly slower than copying files with the reader plugged directly into the laptop. At its best, the hub transferred at only one-fifth the speed.

While Belkin deserves recognition for helping to bring the UWB technology to consumers, as with so many first-to-market products, the Cable-Free USB Hub commands too much money for too little performance.—CE

>>For more: [go.pcmag.com/cablefreeusb](http://go.pcmag.com/cablefreeusb)

### Belkin Cable-Free USB Hub

\$199.99 direct

●●○○○

**PROS** Easy setup. Provides wireless connection between computer and USB devices.

**CONS** Expensive. Performs poorly compared with traditional wired USB connection.





PHANFARE

## A PHOTO MANAGEMENT APP WORTH SHARING

### Phanfare

Unlimited storage, \$54.95 yearly or \$6.95 monthly. Free 30-day trial.



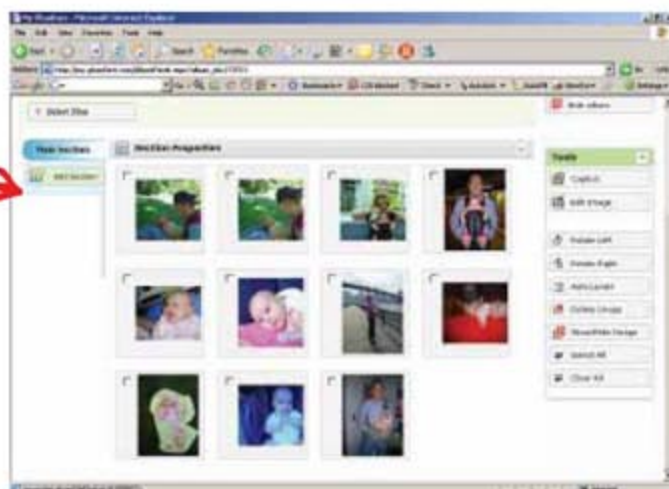
**PROS** Image albums you build on your desktop are automatically duplicated on the Web for sharing. Lets you organize, edit, and share videos as well as photos.

**CONS** Interface is not quite as slick as competitor Sharpcast's.

**D**ON'T YOU LOVE IT WHEN AN APPLICATION starts off good and then just gets better and better? That's what happened with Phanfare. It became one of my favorite photo apps when I reviewed it a year ago. Since then it's only gotten better, adding a new AJAX-based Web client and the ability to send photos from a cell phone to your PC.

This wonderful tool for organizing, editing, and sharing photos straddles the line between Web service and desktop app. Like competitor Sharpcast, Phanfare synchronizes pics between your desktop and a personal Web site that you can share with friends. Simply drag and drop photos onto the desktop client to create a slick virtual album that's automatically re-created on the Web, in the background. Any changes you make on the desktop are made on the Web. Phanfare now lets you organize and edit directly from the Web, too. The MyPhanfare Web-based client is separate from your personal Web

Local and Web albums stay in sync



site, however. With Sharpcast, the two are tightly integrated into an interface that's more intuitive and easier to use.

That said, Phanfare's interface is still user-friendly. And, unlike Sharpcast, Phanfare handles video—and handles it well. You can upload clips up to 10 minutes long, in 20 different formats. The new version also integrates with iTunes, letting you easily pull songs (those ripped from your CDs, not DRM-protected tunes from Apple's store) into your slide shows. Finally, Phanfare's pricing structure is in place; Sharpcast's isn't. Sharpcast may be slicker, but Phanfare is more mature.—Cade Metz

>>For more: [go.pcmag.com/phanfare12\\_06](http://go.pcmag.com/phanfare12_06)

## KEEPING THE BOATS IN THE WATER AND THE



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Sage Software helps Bill Baldwin, Vice President of Administration at Hobie Cat, to see his operation from every possible angle. With a full complement of integrated modules, his Sage ERP solution manages everything from Hobie Cat's financials to operations to boat manufacturing. And it's just one of our many software and service solutions for small and medium-sized

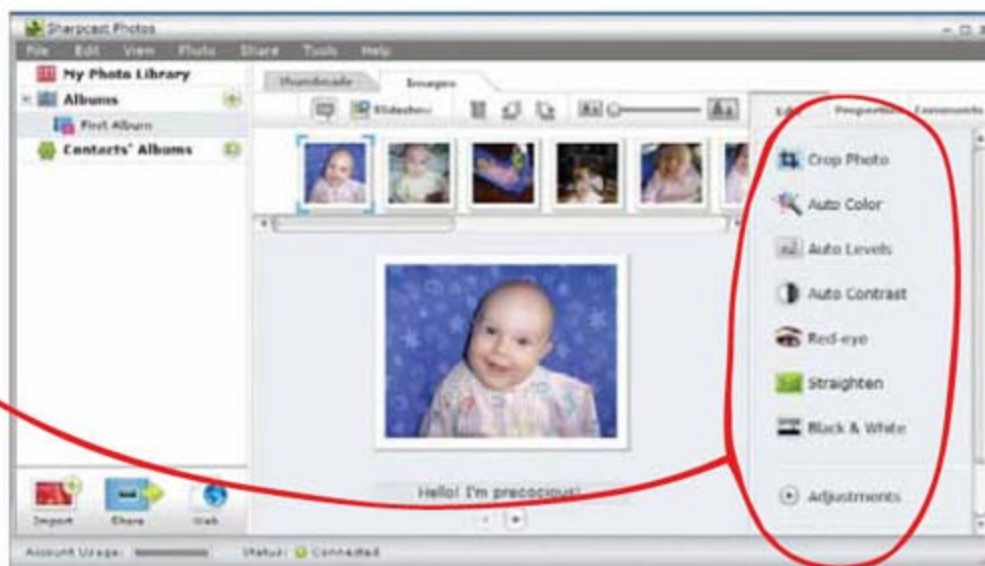


SHARPCAST PHOTOS BETA 2

## PICTURE WARS DEVELOPING

**T**HIS APP IS STILL IN BETA, AND PRICING wasn't yet set at press time, but it's already a serious challenger to its closest competitor, Phanfare. Why? Because Sharpcast's interface is excellent. It makes organizing, editing, backing up, and sharing images so intuitive, so seamlessly synchronized with your Web site (or multiple PCs or, optionally, cell phones and PDAs) that you'll wonder why no one's done it this way before.

As with Phanfare, photos are synchronized between the desktop client and your Sharpcast Web site. But with Sharpcast, it's immediately apparent how to do almost every task. The app includes pull-down menus, but you'll find simpler and easier ways to perform most tasks. Want to view a slide show, for example? Click the Slideshow button. Phanfare, by contrast, is a bit more complicated. You can view a



slide show, for instance, but you can't do it from the desktop client.

Another cool note: With Sharpcast's new iUploader, you can also upload pictures via your Web site, even if you don't have access to your Sharpcast desktop client. It's great for doing a little editing and sharing while you're traveling.

Sharpcast Photos is a strong contender for Editors' Choice, but I don't know what it will cost or what its video and music offerings will be (currently it has none). When it comes out of beta, we'll take another look and see which app—Sharpcast, Phanfare, or some new entry—takes the prize.—CM

>>For more: [go.pcmag.com/sharpcastbeta2](http://go.pcmag.com/sharpcastbeta2)

### Sharpcast Photos Beta 2

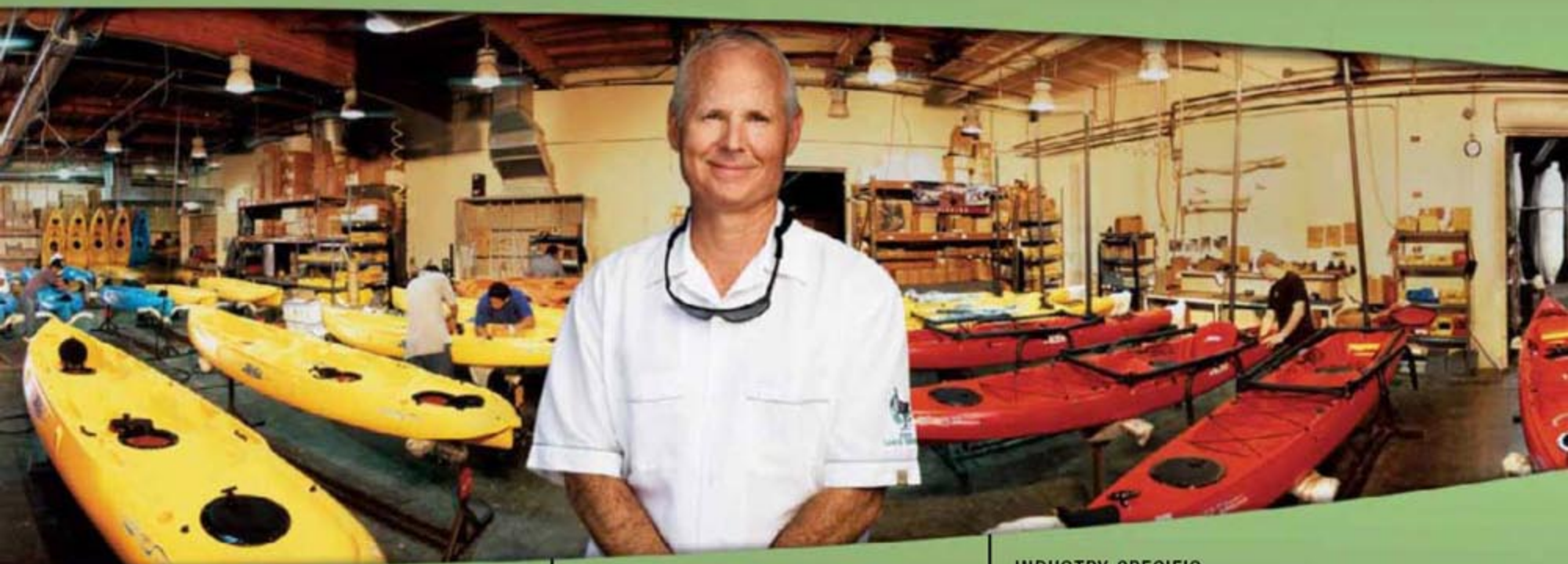
Free during beta period for 500GB storage



**PROS** Sharpcast automatically keeps Web albums in sync. You can even synchronize across multiple PCs and handhelds.

**CONS** Not quite as powerful as Phanfare—lacks its ability to handle video and music files.

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BUYING GUIDE

# Web E-Mail Clients



## WINDOWS LIVE MAIL (BETA)

Free  
●●●●○



It may be a Web app, but Windows Live Mail beta bears an uncanny resemblance to the Outlook PC client interface. You get more than a simulacrum, though.

The AJAX underpinning allows for plenty of responsive, highly interactive features, as well as drag-and-drop goodness. You'll find yourself forgetting that everything resides on some distant server.—*Davis D. Janowski*

>>For more: [go.pcmag.com/livemailbeta](http://go.pcmag.com/livemailbeta)

a particular technology, protocol, or specification, but to a way of combining and using certain Web technologies, such as XHTML and client-side scripting, to make pages far more interactive and responsive. AJAX-based webmail services give users close to the same features, speed, and experience they get when using current versions of standard e-mail clients, such as Microsoft Outlook.

To pull that off, a lot has to happen behind the scenes. With traditional webmail, if even a tiny part of the information on the page needs updating, the browser has to request and display the whole thing again. You can perform only a few limited tasks—if they require no server communication—without triggering the lengthy refresh process. You'll probably be able to scroll around, for example, and possibly change the order in which items display. On the other hand, the AJAX-based interfaces and services I look at in this guide open a connection to a webmail server and just request bits of info here or there when needed—as you click a button, drag and drop a folder, or interact with the page in some other fashion. The application updates just those parts of the page that correspond to your immediate actions. When it's programmed well, you get an application that nicely approximates the appearance and responsiveness of locally running e-mail software.

**NO MONEY DOWN** So what do these services give you for your money? Well, that's not actually the right question. The proprietors seek your eyeballs, not your dollars. Rather than charge you, they push advertisements—which vary in their intrusiveness—at you. AOL's AIM Mail has some of the bigger, more noticeable ones. I can't say I'm a fan of ads, but I'm

**M**ANY OF US LIKE TO CHECK e-mail on the road, but few of us want to lug our PCs. Webmail supplies the solution: The interface runs in a browser, messages reside on Internet-accessible servers, and you need no special client software. Any Internet-connected machine running something like Internet Explorer or Firefox will do. Unfortunately, webmail has always had weaker features and slower response times than systems that use local clients. But in the last year or so, we've seen a dramatic change.

**CLEANING HOUSE** Web development has gotten an enormous boost from a set of tools known collectively as AJAX. We're not talking about the laundry detergent or scouring powder here—although just as the cleanser can make grungy countertops shine, this AJAX can turn dingy Web sites into sparkling showpieces. The term actually stands for Asynchronous JavaScript and XML, which reveals a bit about what you'll find under the hood—though not much. In a nutshell, AJAX refers not to

### » STAYING SECURE

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## YAHOO! MAIL (BETA)

Free

●●●●○



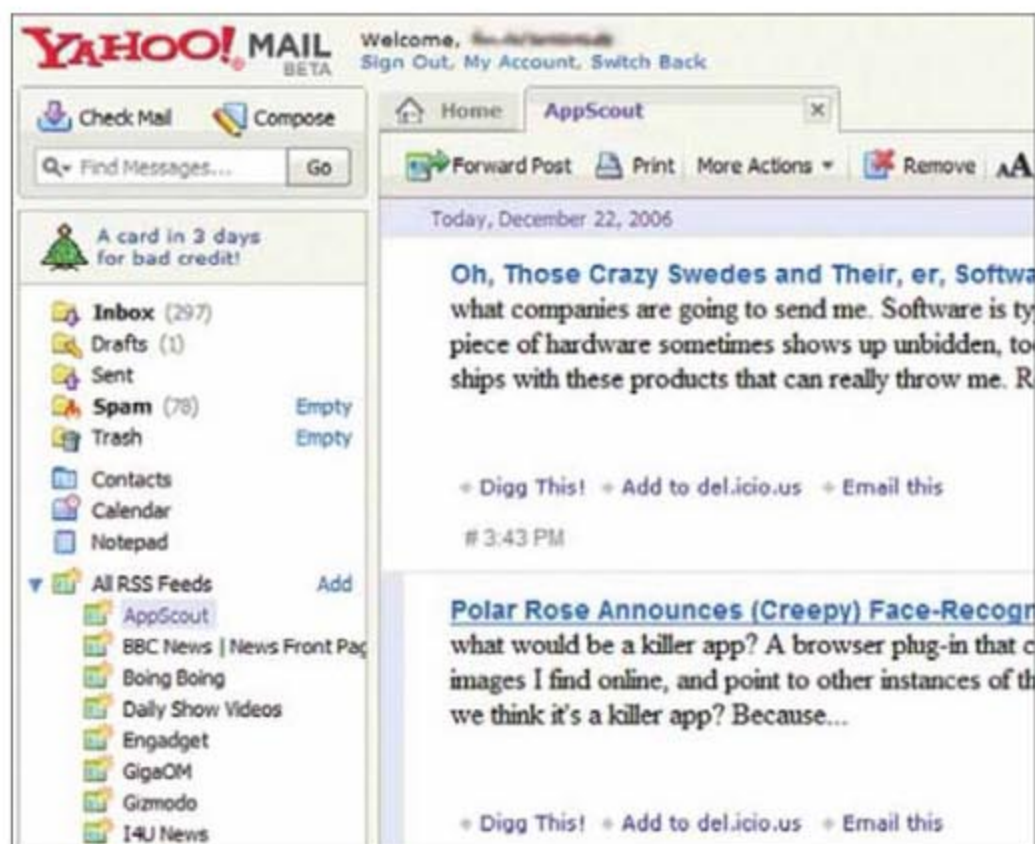
This feature-packed browser-based offering comes pretty darn close to performing like a desktop application at times.

The developers also put a lot of effort into making a progressive application, and nothing demonstrates this better than my single favorite feature: the ability to access RSS folders and feeds from right there in the interface.—DDJ  
 >>For more: [go.pcmag.com/yahoomailbeta0906](http://go.pcmag.com/yahoomailbeta0906)

willing to glance at them or expend the effort to ignore them in exchange for free e-mail.

The services share many other features. Each bestows on you a significant amount of storage. Most major players have upped the ante to at least 2GB (Yahoo! gives 1GB) and will give you more for a small yearly fee. To some extent, they all attempt to replicate the features, look, and feel of Microsoft Outlook. They also let you upload and store your contacts to an address book and keep an online calendar as well as a task list, notes, or both. As you'd expect, each service offers either homegrown or third-party spam blocking, and the filters work much better than in the past. The Windows Live Mail and Google Gmail betas let you use POP3 to have messages from multiple accounts forwarded to your inbox, so you can keep tabs on your various outside mailboxes more easily. Since none of the services cost anything (for their basic plans), I encourage everyone to have multiple accounts—perhaps different ones for each of your hobbies or groups of friends.

**OPERA WEB MAIL** I'm a big fan of Opera, but I was disappointed in its webmail offering. Compared



with the Editors' Choice winners here, I found the product short on features and the interface counterintuitive. For now, I'd suggest going with one of the other solutions in this guide.

**AIM MAIL** AOL offers an attractive, much more AJAXsonian service than it did last year. The company has added calendaring and has improved integration with other of its properties, such as AOL Pictures, which gives you free and unlimited photo storage. A "Blog this" feature lets you simply copy text directly from e-mails and paste it into your AOL Journals blog. Overall, I found this to be a perfectly serviceable webmail system that should find plenty of traction with AOL and AIM subscribers—but

## INTERACTIVE WEBMAIL IN REVIEW

Products are listed from best to worst by rating. denotes Editors' Choice.

PRODUCT	RATING	COMPANY	STORAGE	AJAX USE	COMMENTS
Windows Live Mail (beta)	●●●●○	Microsoft Corp.	2GB	Heavy	<b>FAMILIAR</b> Outlookesque interface.
Yahoo! Mail (beta)	●●●●○	Yahoo! Inc.	1GB	Heavy	<b>PACKED</b> No kitchen sink. Yet.
Google Gmail (beta)	●●●●○	Google Inc.	2.6GB	Some	<b>SOLID</b> Integrates well with Google apps.
AIM Mail	●●●●○	AOL LLC	2GB	Moderate	<b>SIMPLE</b> Elegant, well integrated, easy.
Opera Web Mail	●●○○○	Opera Software ASA	30MB	None	<b>RUDIMENTARY</b> Clunky Web 1.0.

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## EXPERT VIEW

BY DAVIS D. JANOWSKI

### IN THE WEB WARS, WE'RE THE WINNERS

**W**ITH FREE WEB APPLICATIONS, EVERYONE wins, especially as more and more integrate related capabilities you once had to access separately. Millions of us get powerful tools without paying a cent. But giving away products and services doesn't mean that developers, like AOL, eBay, Google, Microsoft, and Yahoo!, leave empty-handed: Advertisers reaching millions of users fill their coffers. And, in turn, the sound of clattering coins drives intense competition among toolmakers attempting to grab our attention, spurring the development that's rapidly increasing convenience and productivity.

Yet I hear murmurs of Internet Bubble 2.0. I admit that tech pundits can drive fears when we bash the big guys for what we see as useless and waste-

***The sound of clattering coins drives intense competition among toolmakers.***

ful projects. For instance, although a lot of fine content mixes with all the crud that is Yahoo! Answers (and I'm sure noble intent drives the endeavor), I fail to grasp the impetus for devoting what must be vast resources to this cause. And there's no shortage of other examples that feed looming-disaster paranoia: Witness the recent reorganization at Yahoo! and the leak of the internal "Peanut Butter Manifesto" asserting that the company is spread too thin; also the way that, after years of dominance, tech titan Microsoft keeps stumbling—with the development snafus surrounding Vista as exhibit A; and the ridiculous amount (even if it was only stock) that Google paid for YouTube.

In fact, I'll agree that the last example—representing the whole viral video thing and the hundreds of current and start-up social-networking/video sites (much of this driven by overexcited investors)—suggests a mini-bubble destined to burst. Ultimately very few people will spend their hard-earned cash for amateurish content, and very few of these companies will reach the critical mass of eyeballs needed to sustain ad-revenue-based life forms. Pop.

Then why am I so convinced that we'll see no big-bubble bang? A lot of the investors, people starting companies, and mid-level managers with the big guys learned their lesson during the first one. They're building incredibly useful applications, like webmail and the services closely associated with it. And the advertising money paying for those applications is real. So breathe easy. We'll all be using free wares from the Web giants for years to come.

the developers do seem to be playing catch-up with Yahoo! and Live Mail.

**GOOGLE GMAIL (BETA)** You won't find the drag-and-droppiness or the AJAXity here that you will with Windows Live Mail or Yahoo! Mail, but I like the integration that lets me easily access all the other Google tools I use. And being able to forward up to five POP3 e-mail accounts to my Gmail inbox makes life easier. I also like the exclusivity that

AJAX lets you drag and drop page elements.



#### AIM MAIL

Even though this new version is well-rounded, AOL still seems to be playing catch-up.

Google maintains: You need to have a cell phone or get an invite from a registered user to score your own account, and that restricts the ability of spammers to sleaze their way in. One little thing: This operation launched on April Fool's Day 2004—fer cryin' out loud, kiddies, I know the beta blankie feels all soft and safe, but it's time to roll it up and join the rest of the class for milk and cookies.

**WINDOWS LIVE MAIL (BETA)** With five plans currently (three free, two premium) and another premium one coming sometime in 2007, Microsoft has the most variety—and the most confusing branding. I'll zoom in on my favorite free offering, Windows Live Mail (beta). Of all the no-cost Web products in this guide, it manages the closest approximation of Outlook. In addition, from within the browser e-mail interface, you can (or will soon be able to) reach all the parts of the Live ecosystem, such as Live.com, Live Search, and Live Spaces, among many others. These qualities earn Windows Live Mail the right to share an Editors' Choice.

**YAHOO! MAIL (BETA)** I'm storing this contender on my favorites shelf, too. The Yahoo! Mail developers continue blazing the trail they cut last year. I'm impressed with the responsiveness of this appli—sorry, webmail interface (I get a bit confused, because at times it feels like a locally running application). The integration of RSS right into the mail interface folder tree tops the list of things I like. I just click and open up a folder tab right on the screen to see all my latest feeds without having to leave the page for another separate RSS page (as I must with Google Gmail). Along with the Windows Live Mail beta, Yahoo! Mail (beta) snags an Editors' Choice.—DDJ



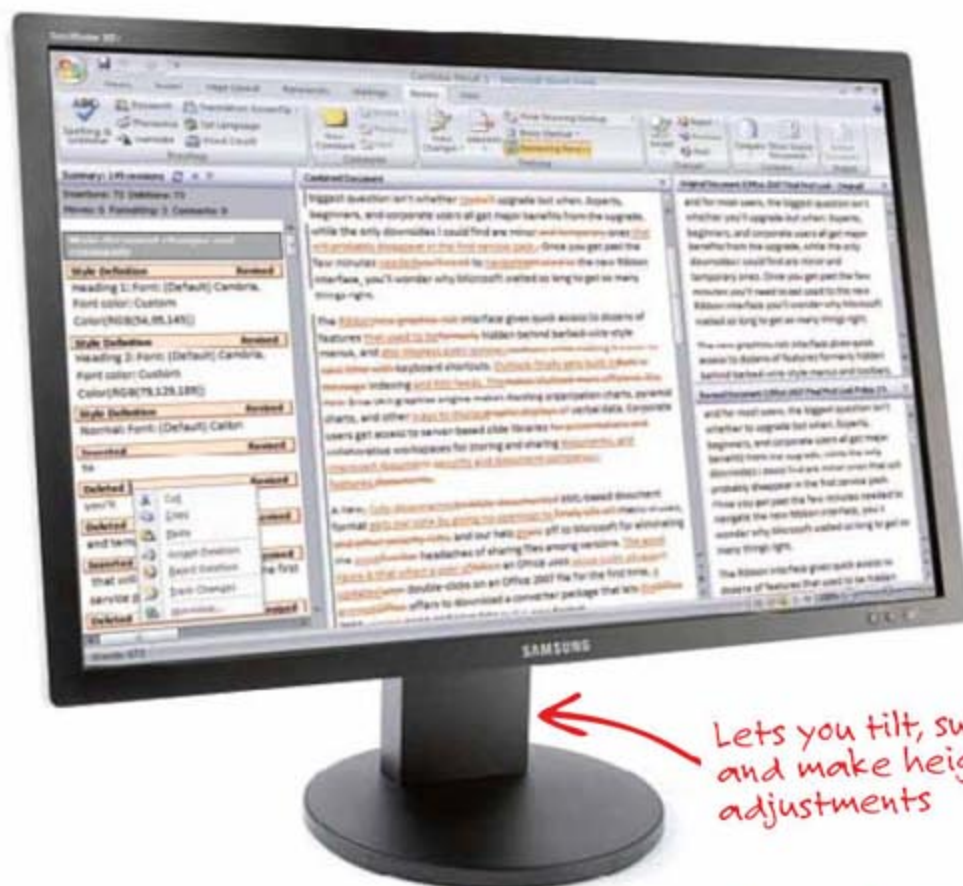
Can achieve up to 2,560-by-1,600 resolution

## SAMSUNG SYNCMASTER 305T SEE THE (REALLY) BIG PICTURE

**S**AMSUNG HAS ENTERED INTO THE ARENA of 30-inch desktop LCDs with the SyncMaster 305T, a stunning, high-resolution widescreen display that deep-pocketed businesses, imaging professionals, and gamers are sure to love.

The 305T can achieve a resolution as high as 2,560-by-1,600—though to get the best possible picture at the highest resolutions, you'll need a dual-link DVI graphics card that can scale that high. Four downstream and one upstream USB ports mean that you can use the 305T as a hub to connect to a variety of peripherals.

The 305T's speedy 6-millisecond (gray-to-gray) pixel response rate delivered impressively smooth video performance. Motion artifacts were virtually nonexistent during a round of Doom 3, and DVD movies looked awesome on the 16:10 aspect ratio widescreen. Text display quality was also very good, and the panel did an outstanding job of displaying light and dark shades of gray—even at the extreme ends of the spectrum. Color quality was equally impressive.



Lets you tilt, swivel, and make height adjustments

The SyncMaster 305T comes with a three-year warranty that covers parts, labor, and backlighting. You also get toll-free technical support for the life of the display.

A top-shelf 30-inch LCD monitor that delivers outstanding performance and image attributes at the highest resolutions, the Samsung SyncMaster 305T is as good as it gets.—John R. Delaney

>>For more: [go.pcmag.com/samsung305t](http://go.pcmag.com/samsung305t)

### Samsung SyncMaster 305T

\$1,999.99 list



**PROS** Excellent image quality. Fast response time. Ultrahigh native resolution.

**CONS** No on-screen controls. USB cable not included.

Function buttons for adjusting image settings



### NEC MultiSync LCD195WVXM

\$300 street



**PROS** Good color quality. Handles moving images well.

**CONS** Light-gray performance is weak. So-so text readability. Screen does not pivot.

Panel can tilt forward or backward on the base

### NEC MULTISYNC LCD195WVXM

## AN LCD FOR WORK AND PLAY

**L**ABELED A BUSINESS DISPLAY, NEC'S 19-INCH LCD195WVXM pulls double duty as a multimedia monitor: Games and movies look superb on the widescreen panel, and color quality is very good at high resolutions. Grayscale and text performance, however, are less than stellar.

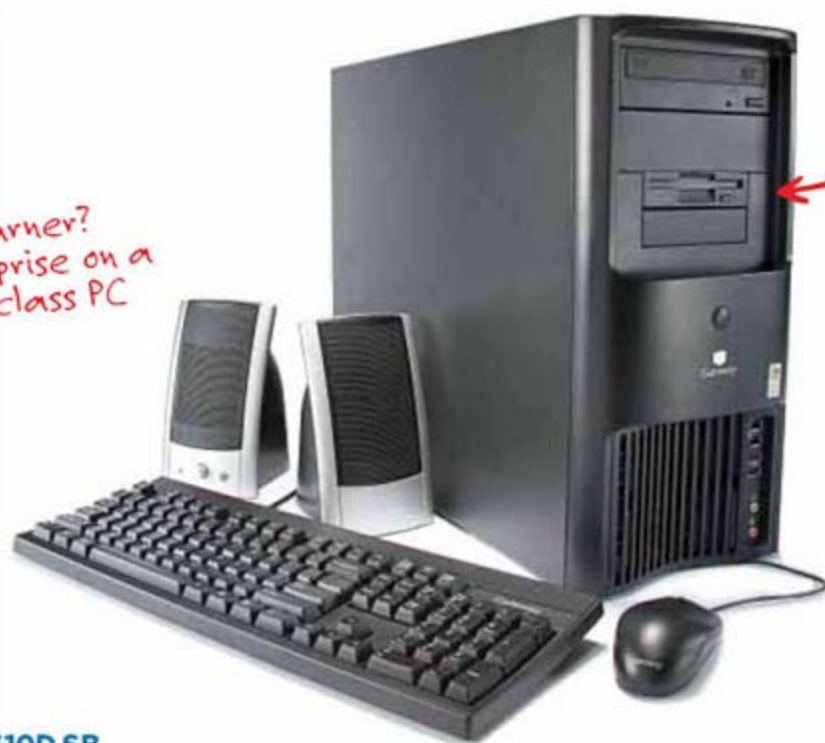
Thanks to a 5-millisecond pixel response rate, the LCD195WVXM handled moving images with aplomb. Movies and games were virtually flicker-free.

I was disappointed with text performance, though: Arial-style fonts set to 6.8 points looked fine, but anything smaller was unreadable. In analog mode, the monitor had difficulty displaying light shades of gray. Even with a digital (DVI) signal, my test images showed a noticeable loss of bright highlight detail.

The LCD195WVXM is a solid-quality monitor that will serve most business users well—as long as the ability to read small text is not vital—and will handle most of your multimedia needs.—JRD

>>For more: [go.pcmag.com/nec195wvxm](http://go.pcmag.com/nec195wvxm)





No DVD burner?  
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73GB, 10,000-rpm  
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### Gateway E-6610D SB

\$1,582 direct

●●●●○

**PROS** High-powered graphics for business. Core 2 Duo power. Speedy, 10,000-rpm hard drive. FireWire ports. Workstation-class graphics card. Vista-capable. Extra PCIe x16 slot.

**CONS** The hard drive is a little small for graphics work. Comes with only a 90-day Internet Security subscription. Case interior is a little cluttered.

GATEWAY E-6610D SB

## A PC TO PUT TO WORK

**A** LONG GATEWAY'S SPECTRUM OF VALUE-based to high-powered systems, the E-6610D SB lives near the top. Endowed with a set of high-end components, the E-6610D SB will help your company get projects out the door on time.

Driven by an Intel Core 2 Duo E6600 processor, the E-6610D SB is well suited to graphics-heavy projects or intensive database computing. Also incorporating a 128MB nVidia Quadro FX 550 graph-

ics card, the system is certified Vista-capable and should be able to handle Vista Ultimate (although, in a business system, Vista's entertainment features may be superfluous).

The E-6610D SB achieved excellent scores, consistent with those of high-powered workstations, on BAPCo's SYSmark 2004 SE benchmark tests: 217 on Office Productivity and 313 on Internet Content Creation.

My review system came with a 73GB, 10,000-rpm U320 SCSI drive. You may also want to add a SATA data drive, since 73GB isn't much space. The E-6610D SB also lacks a DVD burner—an easily rectified omission, but an omission nonetheless.

Despite some shortcomings, the Gateway E-6610D SB is a high-powered, workstation-class system that can keep your business going for the next several years. —Joel Santo Domingo

>>For more: [go.pcmag.com/e6610dsb](http://go.pcmag.com/e6610dsb)

DELL COLOR LASER PRINTER 3110CN

## WORKHORSE LASER ON A BUDGET

**T**HE AFFORDABLE WORKHORSE COLOR LASER HAS finally arrived. Take, for example, the Dell Color Laser Printer 3110cn. Costing only \$499 (direct), this machine offers speed and paper handling that are good enough for a small office or workgroup with relatively heavy printing needs.

Printing speeds, though good, are well short of impressive. Dell rates the 3110cn engine at 31 pages per minute for monochrome and 17 ppm for color—still, a reasonably good clip for small-office use. A 250-sheet input tray and a 150-sheet multipurpose tray come standard. If that's not enough, Dell offers optional trays for increased capacity.

Overall, output quality is typical for a color laser, though text quality is toward the low end of typical. Fewer than half the fonts on my tests qualified as easily readable at 5 points. At 6 points, however, all of our standard business fonts showed well-formed characters. Both graphics and photo quality are suitable for internal business needs. I saw slight posterization and misregistration of colors, but the key word in both cases is *slight*.

The Dell Color Laser Printer 3110cn's balance of speed, quality, and paper handling makes it a good fit for a small office or workgroup. —M. David Stone

>>For more: [go.pcmag.com/dell3110cn](http://go.pcmag.com/dell3110cn)



18.5 by 15.8  
by 19.1 inches  
(HWD)

Comes with two  
paper trays

### Dell Color Laser Printer 3110cn

\$499 direct

●●●●○

**PROS** Reasonable speed and output quality overall. Good paper handling.

**CONS** Although text quality is good enough for most business needs, it's below par for a laser.



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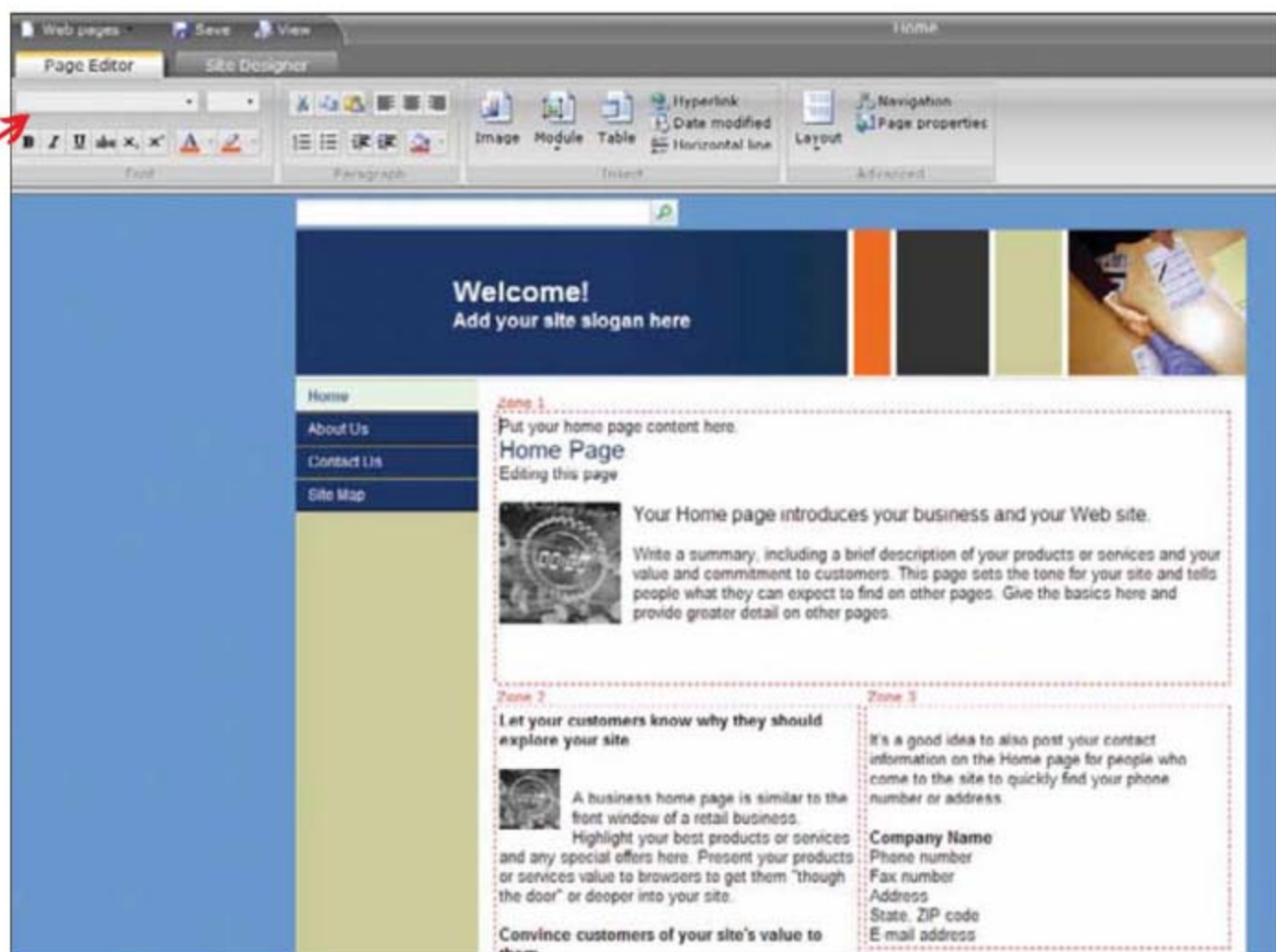
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\*All prices are IBM's estimated retail selling prices as of October 3, 2006. Prices may vary according to configuration. Resellers set their own prices, so reseller prices to end users may vary. Products are subject to availability. This document was developed for offerings in the United States. IBM may not offer the products, features or services discussed in this document in other countries. Prices subject to change without notice. Starting price may not include a hard drive, operating system or other features. Contact your IBM representative or IBM Business Partner for the most current pricing in your geography. 1. Based on "IDC, 'The Impact of Power and Cooling on Data Center Infrastructure,' Document #201722, May 2006," page six, which highlights that a rapidly rising server-installed base is projected to drive an increase in the cost of power and cooling over the next five years. 2. PowerExecutive can help save power during periods of lower utilization. 3. IBM hardware products are manufactured from new parts, or new and serviceable used parts. Regardless, our warranty terms apply. Telephone support may be subject to additional charges. For on-site labor, IBM will attempt to diagnose and resolve the problem remotely before sending a technician. On-site warranty is available only for selected components. 4. IBM Global Financing offerings are provided through IBM Credit LLC in the United States and other IBM subsidiaries and divisions worldwide to qualified commercial and government customers. Monthly payments provided are for planning purposes only and may vary based on your credit and other factors. Lease offer provided is based on a FMV lease of 36 monthly payments. Other restrictions may apply. Rates and offerings are subject to change, extension or withdrawal without notice. Information about non-IBM products is obtained from the manufacturers of those products or their published announcements. IBM has not tested those products and cannot confirm the performance, compatibility or any other claims related to non-IBM products. Questions on the capabilities of non-IBM products should be addressed to the suppliers of those products. IBM, the IBM logo, PowerExecutive and Express Servers and Storage are trademarks or registered trademarks of International Business Machines Corporation in the United States and/or other countries. AMD, the AMD logo, AMD Opteron and AMD PowerNow! are trademarks of Advanced Micro Devices, Inc. Other company, product and service names may be trademarks or service marks of others. © 2006 IBM Corporation. All rights reserved.



Quickly create a business Web site using templates and built-in editor



### MICROSOFT OFFICE LIVE

## BETA NO MORE

#### Microsoft Office Live

Office Live Basics, free; Office Essentials (10 workspaces, 500MB), \$19.95 monthly; Premium (20 workspaces, 1GB), \$39.95



**PROS** Lets you easily build a Web site, assign a domain name you choose, enable form input. Hosts the site. Lets you assign individual rights to customers, employees, partners for Web collaboration.

**CONS** Collaborative features supported only under IE, for now. Confusing navigation. Hard-to-use advanced features.

**T**HIS SUITE OF ONLINE BUSINESS COLLABORATION tools aims at small businesses that need to create a Web presence or boost a weak one—and it has finally shed its beta cocoon. The newly emerged creature may not be as pretty as a butterfly (the interface needs work), but it definitely has wings—most notably because of its strong Web-hosting features.

The free, ad-supported Basic level offers calendar sharing, but for real collaboration you need the fee-based Office Essentials or Premium. Both provide user workspaces and a business contact manager; Premium also has business management apps. All three versions give access to Web hosting and the Office Live adManager beta (for those who want to buy search engine ads). They also let you download Office Accounting Express 2007, which imports from QuickBooks and Microsoft Money, keeps customer and vendor records, supplies simple but adequate reports, and provides other useful tools. Best of all, it integrates superbly with Office.

Microsoft's password-protected Office Live servers—not to be confused with the public Web site you can create—hold your business data, which you can sync with local applications such as Microsoft Outlook and Excel. The type of information you can store depends on your service tier. You can share your account with individuals you

invite via e-mail, assigning each person different privilege levels for different features.

Office Live lets you create a public Web site (using your own domain name) to display whatever you want—business data from your account, forms that accept input from visitors—you decide. Well-designed templates and a built-in page editor with an Office 2007 Ribbon-style interface make site building easy. Paid Office Live subscribers can turn off the built-in editor and use their own.

Rough edges remain. Learning how to link data between your Office Live account and the public Web site requires serious patience. Mail and personal calendar features come from Live Mail, which has a different interface, requires a separate log-on, and can't share info with the Office Live company calendar. Worse, password-protected collaboration features currently work only with Internet Explorer. Users of other popular browsers (and Macs) will have to wait until later in the year.

Rival services such as HyperOffice and WebEx-One support multiple browsers and platforms and often have more elegant collaboration features, but they don't offer tightly integrated domain name registration, Web hosting, or site building. Office Live hardly qualifies as perfect, but nothing else supplies its innovative and valuable feature combination.

—Edward Mendelson

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# THE BEST STUFF

EDITORS' CHOICES IN KEY CATEGORIES

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Samsung Electronics

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YEAR FIVE

1986



## REDESIGN NUMBER ONE

1986 was the year of our first big redesign. Beginning with the January 28 issue, *PC Mag* looked a little less like a catalog—and a little more like a magazine. “This issue introduces a clean new design,” we wrote. “It starts with a more striking cover (including a snappy new *PC Magazine* logo) and continues inside with new organizational themes and page designs.”

Wait. Did that say “snappy new *PC Magazine* logo”? Basically, it was the same logo we’d used since the very first issue—and still use today. But we did decree that from there on out, the logo would always be red. During our first four years, it had changed colors every now and again. We also adopted a new name. For the first time, we were officially known as *PC Magazine*. Until 1986, we were just *PC*.

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■ JOHN C. DVORAK

## IBM PRODUCT CENTERS: THE FINAL ANALYSIS

With this issue, John C. Dvorak begins a new column, bringing a new perspective on the PC arena. And look for his *Inside Track* into the computer industry on the following page.

I was disappointed to see little or no analysis in the press of the recent sale of the IBM Product Centers to Nynex. We heard variously that IBM wasn't making money on the Centers, might have broken even, might have made a little money, or who knows what? What does this bode for readers (or the industry) in general? If IBM can't make it, then who can?

Well, it seems that IBM never intended to make money on the Centers. Corporate insiders tell me that the IBM Product Centers were expendable less than a year after the first store was opened in Philadelphia in 1980. By 1981, IBM was already seeking to either sell the individual stores to employees or to franchise them.

The stores were developed as a direct result of IBM's no-layoff policy and the reorganization (or, rather, elimination) of its Office Products Division (OPD). “IBM had a lot of typewriter salesmen all over the country. This was inefficient. It hoped to put some of them in the Product Centers, then phase them out of the company, since none of these guys knew much about selling computers,” one observer told me. The new emphasis for office sales would not be in retailing through storefronts, but in selling over the phone (telemarketing) combined with direct mail.

Since this new direction meant a lot of office sales employees would eventually be jobless, IBM played that some employees might want to buy a store.

An OPD was being dissolved, IBM hired a large market research firm to create a slide show presentation to demonstrate the benefits of entrepreneurial activity to

these employees and tell them about opportunities in the real world. The underlying suggestion: Get a real job! Then some executives got cold feet, thinking that someone might misinterpret the final slide show. Perhaps IBM didn't want to even suggest that an employee wasn't wanted. So the presentation was never given, and IBM went ahead with the Product Centers and put these people to work in them. IBM still hoped that either some of these guys would quit, or that it could sell the stores to these employees along with the promise of an IBM dealership.

**THE LONG GOODBYE** It never happened. The typewriter salesmen weren't the kind of guys who wanted to be in business for themselves. They liked the steady paycheck and the prestige of being an IBMer. IBM tried for 5 years to get rid of the Product Center stores because they interfered with its VADNAR sales. Companies

■ IBM Product Centers were developed as a direct result of IBM's no-layoff policy and the reorganization of its Office Products Division.

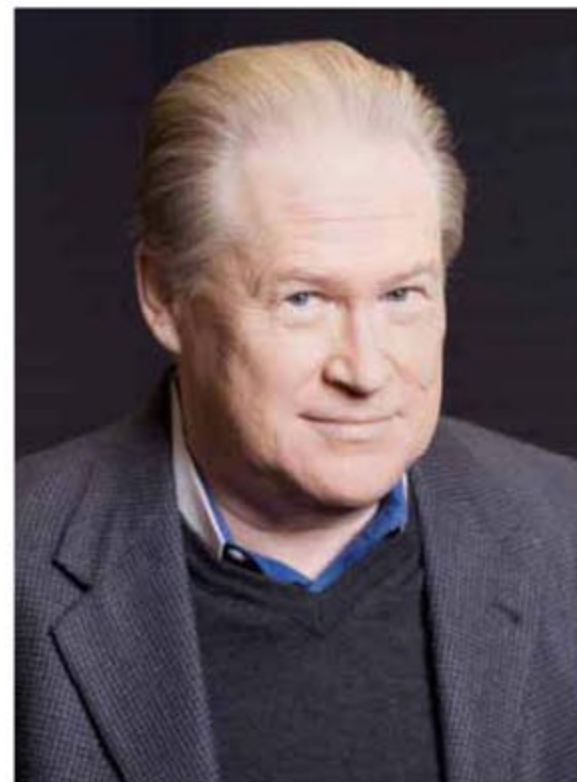
lost sales, and its own telemarketing. Meanwhile, no one could figure out why anyone would buy from the stores. The Product Centers weren't allowed to discount or to wheel and deal. Still, some of them racked up over \$4 million in annual sales. Not shabby at all, really, no matter what the rest. It's amazing how much magic there is in the three letters, IBM.

Finally, IBM sold the 84 stores (actually, 81 stores and 3 locations that have to be moved) to Nynex, which had some other Bell holding companies (like Pacific Telephone) making money, so it got the nerve to expand in a big way.

IBM surprised its Atlanta headquarters with a same-day announcement. After all, the company seemed so much interested in retailing. The last store was just opened in Torrance, California, a few months previously, in August 1985. “The employees in Atlanta were stunned up by the suddenness of the sale,” said an IBMer at the Atlanta headquarters.

Meanwhile, if you carefully read IBM's announcements about the sale of the stores, you'll find heavy emphasis on the fate of employees. IBM Corp. is pushing them to Nynex. Nynex wants them, but the Product Center IBMers are resisting and will probably have to be scattered around the country. Talk about loyalty! This will leave Nynex up a creek. There is a genuine shortage of qualified computer store floor personnel.

After all is said and done, storefront retailing and IBM go their separate ways. It was an exercise in futility: no reason to panic, and nothing to celebrate.



John Dvorak's first *PC Magazine* column (left), and the man today (above).

## INNOVATORS JOHN C. DVORAK

**Y**OU DON'T THINK JOHN DVORAK IS AN innovator? You're nuts. In the mid-eighties, when IBM took him out for a wine-soaked business dinner—and refused to pick up the tab—*PC Magazine*'s most famous son went home and described the evening in a column read by several million people, using it as proof that Big Blue was a hopelessly misguided company. Some may have a different word for it, but to us, that's innovation. And by now, we all know that IBM was indeed a hopelessly misguided company.

“The ‘My Dinner with IBM’ column caused a major row,” says then-editor-in-chief Bill Machrone. “Copies appeared on the cubicles at Apple with the admonition, ‘Don't let this happen to you!’”

Then there's the time John appeared in an advertisement for Everex Computer Systems—in *PC Magazine*, just pages away from his regular column. An egregious violation of journalistic ethics,

you say? Hardly. John made it very clear he wasn't endorsing Everex. The fee he received from the company was merely for his services as a *model*.

What? You don't buy it? Whether you buy it or not, there's no denying that when John Dvorak hit the scene, he completely reinvented computer journalism. And in the 25 years since, no one has even come close to duplicating his appeal—or his influence.

John took over as editor-in-chief of *Info World* in 1981, and it was there he dreamed up his famous *Inside Track* column, the tech world's first taste of three-dot journalism. “The **boldface style I use in Inside Track**? I invented that at *InfoWorld*,” he says. “My column was in a [expletive deleted] place in the magazine, so I needed a way of **drawing attention to myself**.”

Then, in 1986, we brought him to *PC Mag*. It was such a big deal that his scowling face made the cover. And the rest is history. Unless you have another word for it.



## IN 1986...



- The New York Mets win game six of the World Series when outfielder Mookie Wilson hits a ground ball through the legs of Boston Red Sox first baseman Bill Buckner. Two nights later, they win game seven.
- Compaq reports third-year revenues of \$503.9 million, a U.S. record.
- The Space Shuttle Challenger explodes, killing all seven crew members.
- Ashton-Tate sells the one millionth copy of its desktop database tool, dBASE.
- Halley's Comet returns for the first time in 75 years.
- Microsoft is listed on the New York Stock Exchange.
- Ted Turner begins colorizing classic black-and-white movies.
- Mitch Kapor parts ways with Lotus, the company he founded.

## PRODUCT FLASHBACK MICROSOFT WINDOWS 1.0

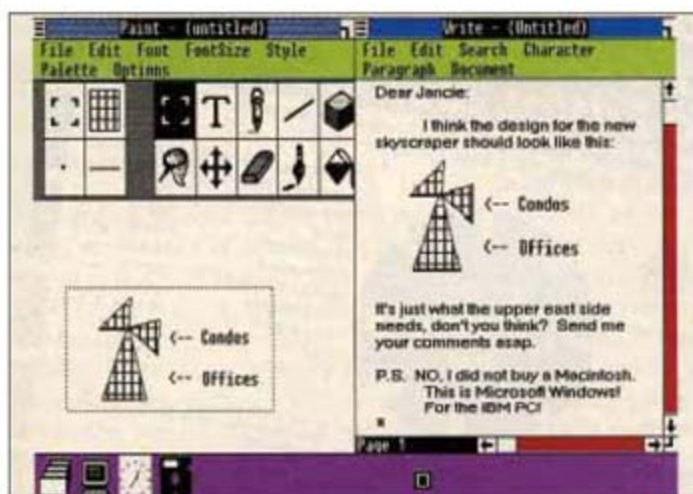
256KB of RAM (640KB recommended),  
two disk drives (hard drive recommended),  
DOS 2.0 or later.  
\$99 (in 1986)



**PROS:** You can launch applications even if you can't remember how to spell them.

**CONS:** You'll need state-of-the-art hardware. That means an 8-MHz PC.

**BOTTOM LINE:** Will run on top of DOS for years to come!



The use of a mouse further improves the speed of the user interface. If a program's name is displayed on the screen, you point the mouse pointer (a little graphics arrow symbol) at the file name and click the mouse button twice. Windows immediately executes the program. You don't have to remember the name of the program or how to spell it, and you don't have to type its name.

Windows uses "tiled" windows: multiple windows on the screen that do not overlap but share screen area. If you have one window occupying the entire screen and open a second window, typically the existing window shrinks by half, allowing the new window to occupy the other half of the screen. You can temporarily "zoom" either window to occupy the entire screen and then shrink it back to its prior size. Or you can use the mouse to set a new propositional relationship between the windows, giving one window two-thirds of the screen and the other one-third, for example. . . . —Jeff Duntemann, *PC Magazine*, February 25, 1986

**L**IKE ALL ALTERNATIVE OPERATING ENVIRONMENTS, Microsoft Windows is a command shell that loads after DOS and takes control of the machine. Through Windows, you can run application programs and—within some strict limitations—move information between them. DOS is still there; Windows simply puts a new face on DOS and uses DOS to do some of its work. If you like, you can open a direct window into DOS and use the normal DOS command line.

Windows broadens the bandwidth of the PC user interface. Ordinarily, you and PC-DOS communicate by way of a single line on your screen. The other 24 lines go to waste, except as short-term memory retaining what the command has already printed. . . . Windows puts the entire screen to work passing information between you and the computer. . . .

## DO YOU REMEMBER?

### The Dueling Covers

The first issue of 1986 included what was quickly becoming a *PC Mag* staple: Best of the Year. The cover was dominated by a man in a tuxedo, shown from the neck down as he open a sealed envelope. We liked the image so much that we used it again 12 months later. Or so

it seemed: A woman wore the tux the second time around. And you thought tech mags were sexist.

### The Reader Who Asked for Help

That same issue, Bart Forbath of Baldwin, New York, suggested we change our style. "Much of your material is over the heads of many

of your readers," he said. "Please help us beginners." Our response quickly laid the matter to rest. "We have surveyed our readers," it stated. "We won't waste their time (or ours) by publishing articles that say: 'This is a floppy disk. You can store information on it.'" Sorry, Bart. This magazine is hard-core!

## READERS RESPOND

### I Love John C. Dvorak!

"I began using PCs in 1985 and subscribed to *PC Magazine* almost immediately and have kept on subscribing continuously. It was the glory days of DOS and batch files, and *PC Magazine* was there to help. . . . One constant throughout the years has been Mr. Dvorak. He keeps me coming back for more. Keep him around forever."

—David E. Buehler, Boeing



### I Love Him Too!

"I've been a subscriber on and off since your first issue, and now I wish I had kept every one of them. I now keep two years' worth of issues in case I need to go back and dig something up. I love Dvorak, although he never answered back when I asked him what ever happened to the Dvorak keyboard (remember that?). Thanks for juggling my memory cells."

—Rich Greene, Olathe, Kansas



### Well, I Hate John Dvorak!

You don't agree with the dudes to your left? Please send your less-than-flattering Dvorak memories to [pcmag@ziffdavis.com](mailto:pcmag@ziffdavis.com) with *PC Mag Anniversary* in the subject line. John will answer—if he feels like it.



# What makes John cranky?

**Mondays?**  
**Rush hour traffic?**  
**Cold coffee?**

Nope. For tech guru John C. Dvorak, it's poorly planned or executed technology products and services, about which he has thoughts he'd like to share. So join Chief Crank Dvorak and his band of merry cranksters as they discuss controversial tech topics and products on PCMag.com Network's fastest growing video program, CrankyGeeks.com.

**Watch Crankygeeks.com**  
**Every Thursday at 2PM EST**

*Sign up for the Podcast at the iTunes Music Store!*

Recent guest cranks include:  
Larry Lessig (*Stanford*), Heidi Roizen (*VC*),  
Neil Gaiman (*best selling author*), Kevin Rose  
(*Digg Founder*), Craig Newmark (*Craigs List*  
*founder*), Lisa Stone (*blogher.com*),  
Om Malik (*GigaOm.com*),  
and the list goes on...



**CRANKY GEEKS**

WITH JOHN C. DVORAK





LANCE ULANOFF

# The Vista Supremacy

**B**Y THE TIME YOU READ THIS, Microsoft will have officially launched Windows Vista into the consumer marketplace (if it stays on schedule, that is). No doubt, consumers are wondering if Vista is right for them. The truth is that they really don't have a choice. Vista will succeed, as have all of Microsoft's previous operating systems. This is destiny. This is marketing. This is the retail channel.

Vista's myriad qualities—speed, 64-bittedness, security, baked-in Search, Aero, Sidebars, MCE, Tablet OS functionality, better user controls—all deserve close scrutiny and would obviously play a part in consumers' decision-making process—if users had a choice.

The new OS, five years in the making, will not be a huge success in 2007. Yes, inevitably, some tech geeks lined up at retail stores at midnight on January 30 to buy the very first copies of the new OS (collectors like those commemorative boxes.) Others sat at their home computers, poised to download a copy as soon as it became available. But the enthusiasm of these early Vista buyers won't translate into big-time sales figures.

This will be a seeding year for Vista. Boxes will be shipped, downloads will be made, and folks will visit their friends' homes and coworkers' cubicles to see Vista (in one of its many flavors) up close and personal. By and large, however, relatively few people will be using it this year.

Yet, Vista will succeed.

Even in the face of the forthcoming Mac OS X 10.5 (Leopard) release this spring and all the Intel-based Macs that can, via Apple's Boot Camp, run Windows, Vista will still, ultimately, outshine the Mac OS. Earlier this year, Apple execs made it painfully clear that most of Vista's best ideas are blatant rip-offs of things they've been doing for ages. And no one really believes that Vista will remain impervious to viruses for long. (To be fair, the Mac OS is not impervious to viruses. There are simply virtually none out there actively attacking it.)

Yet, Vista will succeed.

OEMs will start shipping systems with Vista soon (if they haven't already), but PC sales will be flat in the spring and through the first two months of summer. Even though warm reviews are expected,

Vista will have the scent of a dud. Meanwhile, Apple Mac sales and OS X 10.5 upgrades will soar. In relatively little time, 50 to 75 percent of Mac users will have upgraded or committed to doing so. And then Apple will own a whopping 12 percent of the market.

Yet, Vista will succeed. Here's how:

It will start slowly, with the back-to-school buying season in the later summer and early fall. Parents and students will buy more Macs than they've done in any year prior, but 80 percent of PC purchases will still be Windows-based machines. And every one of those new systems will be running Windows Vista (probably the Home Premium version). Students will love Vista. They'll love the way it looks, how fast it runs, and how easily they can

***Vista will succeed, as have all of Microsoft's previous operating systems. This is destiny. This is marketing. This is the retail channel.***

customize it. This will be phase one on the road to Vista dominance.

Businesses will plan system purchases, too, though they may not actually buy them until 2008. Almost all of these desktops and laptops (90 percent) will be Windows-based systems. Many companies will ghost these systems back to Windows XP or even (yikes!) Windows 2000. This is common practice for corporations standardized on last-generation technology. But by late next year, one-third to half of those companies will start migrating to Vista; I think they'll especially want the UAC (user account control).

By 2009, the scales will tip in favor of Vista, as more companies phase out Windows XP. They'll do this not only because of the perceived benefit of the new OS, but because they know Microsoft will not support Win XP indefinitely. Will there ever be a Win XP SP3? Perhaps, but don't bet on an SP4.

This is the way it will work. Vista will not be a runaway success. It will be an evolutionary one, where, over time, Windows XP fades and Vista emerges as the default OS for PCs.

Don't be so shocked. This tale played itself out with Windows 95, 98, and XP. Vista's success is, as far as I'm concerned, a fait accompli. □

## » SPEAKING OF COLLECTORS

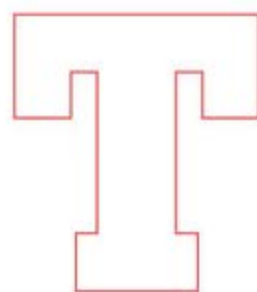
Lance Ulanoff still has the commemorative box that held his copy of Windows 95. For more from Lance, log on to [go.pcmag.com/ulanoff](http://go.pcmag.com/ulanoff)





**BILL MACHRONE**

# Wrapping Up



HIS IS MY LAST COLUMN FOR *PC Magazine*. As the technical publishing industry continues trying to find the balance between print and online media, economic forces weigh against the column's continuance. I'll miss the lively

interchange I've had with so many of you, but I can hardly complain about a 23-year run—that's over 500 columns, nearly half a million words.

In this, *PC Magazine*'s 25th-anniversary year, it would be easy to reminisce over past glories, favorite memories, and war stories, but I'll leave that to others. I prefer to look forward, to cite a few items

***Digital rights management has become a circus act in which we're trained dogs that jump through media companies' hoops.***

on the enormous to-do list that remains. *PC Magazine* has never shied away from a fight, and when I was editor-in-chief I believed that if we weren't getting three or four lawsuits per year, we weren't doing our job. Issues surrounding copy protection, usability, reliability, monopolistic practices, compatibility, benchmark-test cheating, and uniformity of testing procedures have all come under our guns. You, the users, have generally come out ahead. Other areas urgently need your attention, however.

**DIGITAL RIGHTS MANAGEMENT.** This has become a circus act in which we're trained dogs that jump through media companies' hoops. Their goal is to resell us every song, TV show, and movie each time there's a new format and to control how and where we consume the content. DRM technology is focused on preventing us from recording, time-shifting, and sharing content. Someday soon you'll try to record a TV show in high definition and find that it's locked because the owners don't want to devalue the forthcoming full-season DVD. Furthermore, DRM technology is often ill considered, intrusive, and downright harmful. After playing the infamous Sony CDs, many computers required a complete reformat to restore normal operation.

The Digital Millennium Copyright Act is one of the bludgeons used by media companies

to enforce their position on DRM, and it caught the computer industry napping. Among the many flaws in this miscreant piece of legislation is that it criminalizes academic discussion about the strengths and weaknesses of various encryption techniques. Encryption algorithms have far more important uses than protecting songs. The strength of the code needs to be tested, just as the manufacturers of armored vehicles and bulletproof vests need to test their products with armor-piercing ammunition. One side can't suddenly hide behind a legal modesty veil.

This is not about software and media piracy. You, of course, buy legal copies of content for your use and enjoyment. What device you play it on and when you play it should be up to you. Copying it onto another device or medium for your own consumption is legal. Making a copy for a friend is wrong and illegal. Our laws should be similarly clear, yet the DMCA has also been used to punish whistleblowers. Where are the laws that punish lawyers for perverting and misapplying legislation?

**INFORMATION SECURITY.** The need for information security has never been greater, yet the massive amount of data on file about us grows exponentially, with only the data holders' word that they're taking proper measures to protect it. Identity theft is a significant problem; if you've been through it, you know what a nightmare it is. But it's typically a crime against an individual, whereas attacks on financial institutions are crimes against our economic system—potentially far more damaging, because the cost of doing business rises and public confidence in the institutions plummets.

**PRIVACY.** Our atavistic belief in individual privacy is now history. We need to accept that the institutions we deal with have copious records on us—and instead focus on accountability and auditing. I want us to have a portal-style view into our own records at every institution, so we can see who's doing what with our files. I'd like to see consumer-oriented versions of credit-reporting bureaus—companies that do regular information-security checkups on us, even to the extent of white-hat hacking—to ensure, and perhaps insure, our cyber-health.

Finally, if I've ever promised you a secret message in my column, I offer this: A lake is a river that hasn't decided where to go next. □

## » MORE MACHRONE

You can contact Bill Machrone at [Bill\\_Machrone@ziffdavis.com](mailto:Bill_Machrone@ziffdavis.com)

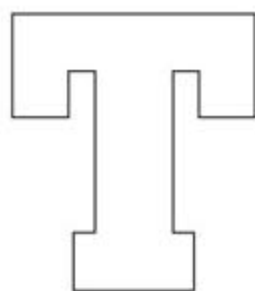
For more of his columns, go to [go.pcmag.com/machrone](http://go.pcmag.com/machrone)





## INSIDE TRACK

BY JOHN C. DVORAK



**HE VISTA VIEW DEPT.:** As Vista begins to ship, two things are becoming apparent. The first is that you're better off with machines equipped with the **hybrid hard drive**, especially if you're running Vista on a laptop. Second, in the real world,

some people are finding the fanciest layer of the GUI, which looks slightly Mac-like, **a bit nauseating** (I find this hilarious). Luckily, you can turn this layer off.

**The HD DVD vs. Blu-ray Battle Is Heating Up Dept.:** There is no end in sight for this war, with both sides in the dispute sending out elaborate dog-and-pony shows to get people to buy these devices. HD DVD is getting an edge for one reason only: It's cheaper, especially for Microsoft Xbox 360 owners, who can buy a drive to play **HD DVD discs for \$200**. Apparently, this drive was one of the hottest Christmas sellers.

More interesting are the extra features that are part of the systems. In particular, HD DVD machines have all sorts of weird and interesting ideas incorporated into their drives. But the Blu-ray folks say that these features aren't as important as the fact that the **Blu-ray system runs Java**, so it can be made to do all sorts of things, too—when someone does some coding, that is.

**One of the most interesting features** demonstrated on the HD DVD system was a skinning capability. I was shown, for example, how the color of a car in a movie could be changed and the new color used throughout—provided that the technology that supports this feature is present. What's even more impressive is the possibility that you could **put your face on the Batman character**, for example, and be in the movie. I'm sure there are all sorts of limitations to doing this, but the mechanism is there in the system.

Of course, when I discuss this with anyone, the first thing that comes up is the idea of substituting your image for someone else's in **a porn movie!** Apparently everyone's mind goes straight to the gutter when an idea like this emerges.

**The Collective Intelligence of the Online User Dept.:** I'm always amused by these books that appear, telling us how there is something like a collective unconscious that is smarter and wiser than the individual's and how the virtual electronic brain that forms as an entity from the global Internet becomes all-knowing. **Wisdom of the crowd.** These ideas amuse me because each time one appears, something like the Yahoo! Search results survey

also appears. So what has been the top Yahoo! search by the great group-mind? **Britney Spears, of course.** There's your collective unconscious in a nutshell.

**Copyrights Everywhere Dept.:** The U.S. Copyright Office has laid down a few interesting edicts of late. First of all, there will be no DVD-to-iPod copying (legally), but the DVD copy protection scheme may be bypassed by college professors teaching film studies. Also, it's now legal to **break cell-phone locks**, so these locked phones can be used with different carriers. (I never knew it was illegal in the first place, but then again I use only phones that are unlocked.) I've always thought that the idea of locking a phone should itself be illegal. It's like owning a car that can run on only one brand of gasoline.

***Some people are finding the fanciest layer of the Vista GUI, which looks slightly Mac-like, a bit nauseating. Luckily, you can turn it off.***

**World Beater Dept.:** If you have not followed the progress of LED technology over the past few years, you are missing out on a lighting revolution. Since the invention of the blue LED, everyone has been scrambling to improve LED efficiency beyond that of fluorescent lights—and even past that of high-pressure sodium lighting, which has been the most cost-effective lighting method in terms of energy consumed per lumen produced.

Nichia, the Tokyo-based leader in LED technology, has come up with an **incredibly efficient white LED**. White light produced by LEDs is generally composed of light from four LEDs: two green, one blue, and one red. According to reports, the new white LED produces nearly **1.7 times the lumens per watt** of a fluorescent bulb. This development essentially makes lighting technology as we know it obsolete. That said, too many of the LED implementations that I've seen on buses and other vehicles have an **annoying strobe** that will have to be eliminated.

Where LEDs will appear first is as backlights for LCD displays, which means that such devices will **last much longer** than the fluorescent bulbs that typically light the screen for you. Also, LEDs are much less fragile than fluorescent bulbs. A lot of displays go out because a fluorescent bulb gets broken. □

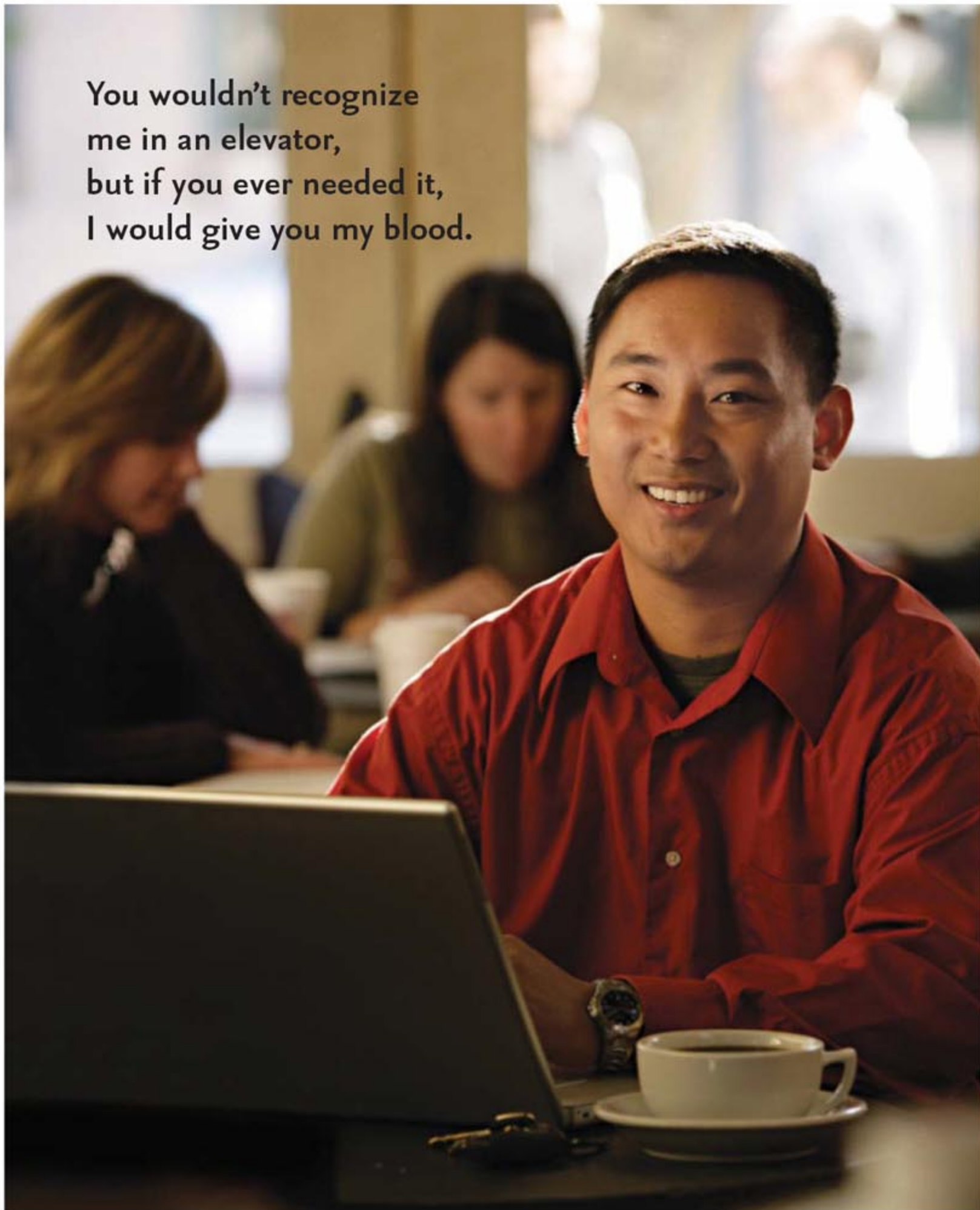
### » WANT MORE DVORAK?

John writes a weekly column for our Web site, too. [go.pcmag.com/dvorak](http://go.pcmag.com/dvorak)

You can e-mail him at [pcmag@dvorak.org](mailto:pcmag@dvorak.org)



You wouldn't recognize  
me in an elevator,  
but if you ever needed it,  
I would give you my blood.



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# THE BEST

# FREE

# SOFTWARE

*Not 1, not 10, but 78 tried-and-true apps  
hand-selected by our hard-working editors.*

**BY TONY HOFFMAN**

**M**OST SOFTWARE IS EXPENSIVE AND bloated. Yet free software typically does one task and does it with precision and elegance. Among the thousands of free apps available on the Web, how do you find the best, most reliable ones for your needs?

To produce this story, we asked *PC Magazine* staffers to share their best-loved free software and were inundated with responses. Our recommendations are the apps that real people use everyday, at work and at home, for all kinds of tasks—photo editing and DVD burning, database work and intrusion detection, VoIP calling and stargazing.

They're tried and tested, the best tools you can get—and they're all free.

Many of the programs we cover are open-source, with their source code available for use and modification as others see fit. We also help you navigate SourceForge ([www.sourceforge.net](http://www.sourceforge.net)), one of the best sites for finding open-source software. But before you start downloading, make sure to protect yourself. In researching this story, we had an encounter with a Trojan horse, which is not unusual. So we turned to our security expert, Neil J. Rubenking, for tips on how to protect yourself from malware. And by the way, once you get started with free software, it's hard to stop.





## MY FAVORITE FREE PROGRAMS

### Kevin Rose

Founder  
Digg

- **AVG Anti-Virus**  
Antivirus app
- **Eraser**  
Data removal tool
- **Firefox**  
Web browser
- **GIMPShop**  
Image editor
- **Picasa**  
Photo management
- **SmartFTP**  
FTP applet
- **Thunderbird**  
E-mail client

### DODGE BAD GUYS

Comodo's free firewall works as effectively as a paid app.

## SECURITY

### avast! 4 Home Edition

[www.avast.com](http://www.avast.com)

This slick, skinnable antivirus app looks like a high-tech media player, but it's really a virus fighter. It scans files on demand and on access, including e-mail attachments. No scheduling—you have to pay for that—but it can send a warning on detecting malware. A boot-time scan option removes tenacious malware. And it's 64-bit compatible.

—Neil J. Rubenking

### AVG Anti-Virus Free Edition

[free.grisoft.com](http://free.grisoft.com)

This program splits its user interface between Control Center and Test Center, which can be a bit confusing. But it does what an antivirus app should: It scans files on access, on demand, and on schedule. It also scans e-mail, both incoming and outgoing. According to Grisoft, it's totally Vista-ready.—NJR

### Comodo Firewall

[www.comodogroup.com](http://www.comodogroup.com)

The new kick-ass choice for free firewall protection, Comodo Firewall keeps hackers out and keeps unauthorized programs from accessing the Internet, even tricky ones that sneak around normal program control. And it resists being forcibly terminated. It works as well as all but the very best for-pay firewalls.—NJR

### McAfee SiteAdvisor

[us.mcafee.com](http://us.mcafee.com)

McAfee's back-end servers crawl the Web to evaluate sites. Does the site host malicious software? Will it spam you? Are there exploits in the code? If SiteAdvisor red-flags a site you're visiting, get outta there! It evaluates all the links from Google and popular search engines so that you need never find yourself on a red-flagged site.—NJR

### SpyCatcher Express

[www.tenebril.com](http://www.tenebril.com)

When we last tested it, Tenebril's SpyCatcher did very well both at cleaning out spyware and at preventing further infestation. The free SpyCatcher Express edition has almost all the features found in the paid version. It lacks antiphishing and a few high-end tools, and you have to check for updates manually, but it does the job.—NJR

### StartupMonitor

[www.snpsoftware.com](http://www.snpsoftware.com)

StartupMonitor alerts you to programs that try to install themselves whenever you boot up Windows. Unlike most similar utilities, this one is unobtrusive and won't interfere with program installations that reboot automatically.—Ed Mendelson

### SuperStorm Freeware

[www.thegreatpuzzle.com/superstorm.php](http://www.thegreatpuzzle.com/superstorm.php)

SuperStorm Freeware protects a sensitive file (up to 200KB) by encrypting it and hiding it inside a JPEG image, and then securely deleting the original. A for-pay Pro edition has no size limit and can encrypt with a user-defined password. SuperStorm can extract anything hidden by the Pro edition, and it uses a simple drag-and-drop interface.—NJR

### Windows Defender

[www.microsoft.com](http://www.microsoft.com)

Microsoft bought Windows Defender's technology about two years ago, but the software colossus doesn't seem to have done much with it. The product's ability to remove entrenched spyware is mediocre, and it's not a lot better at keeping spyware out of a clean system. But it's free and built into OneCare and Vista, so use its on-demand scanner for a "second opinion."—NJR

### ZoneAlarm

[www.zonelabs.com](http://www.zonelabs.com)

The venerable ZoneAlarm doesn't have all the features of ZoneAlarm Pro's firewall. Its program control asks you whether to allow programs rather than consulting the SmartDefense Advisor database. It doesn't have the component control or OS-Firewall features, so it won't block "leak test" techniques. But it's tough as nails; malware can't disable it.—NJR

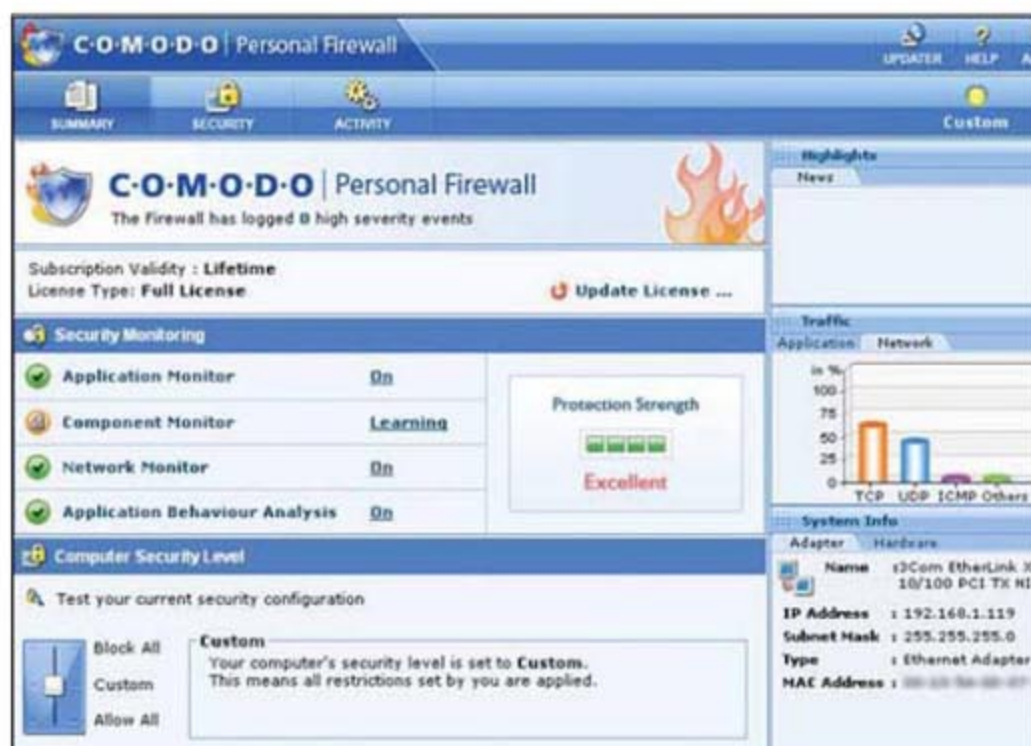
## PRODUCTIVITY

### EditPad Lite

[www.editpadpro.com](http://www.editpadpro.com)

Windows Notepad works—that's about the only good thing we can say about Microsoft's built-in text editor. EditPad Lite, on the other hand, has lots going for it, including a tabbed interface for editing multiple files, line numbering, auto-indenting, and printing blocks of text. EditPad Pro (\$49.95) does add a lot of goodies, of course, including spell-checking and syntax coloring.

—Ben Z. Gottesman, freelance writer





### Notepad++ [notepad-plus.sourceforge.net](http://notepad-plus.sourceforge.net)

With Notepad++, you get many of EditPad Pro's advanced features for free. The interface is more cluttered, but this text editor, billed as a source-code editor, includes macros, collapsible sections, and syntax coloring for over 40 programming languages, from HTML and JavaScript to Fortran and Smalltalk.—BZG

### OpenOffice.org [www.openoffice.org](http://www.openoffice.org)

If you're looking for an alternative to Microsoft Office, try OpenOffice.org. Though not as full-featured as the offering out of Redmond, the suite includes a very capable word processor and spreadsheet that are compatible with MS Office files. There's also a presentation app, a diagramming tool, and a database. OpenOffice.org may be all the suite you need.—BZG

### SQL Manager Lite [www.sqlmanager.net](http://www.sqlmanager.net)

EMS creates powerful database tools and applications for data management. Of particular note is the free SQL Manager Lite edition of its software for databases including MySQL, PostgreSQL, SQL Server, and Interbase/Firebird.—Jennifer DeLeo

### WordPress [www.wordpress.org](http://www.wordpress.org)

Ready to start blogging? WordPress is among the most powerful of the many free personal blogging tools around. You can host WordPress on your own server or get a free blog at wordpress.com. Unlike most other free hosted blogs, you can have multiple contributors, customize the looks, and get the word out via RSS.—BZG

## UTILITIES & PC MANAGEMENT

### AllChars [allchars.zwolnet.com](http://allchars.zwolnet.com)

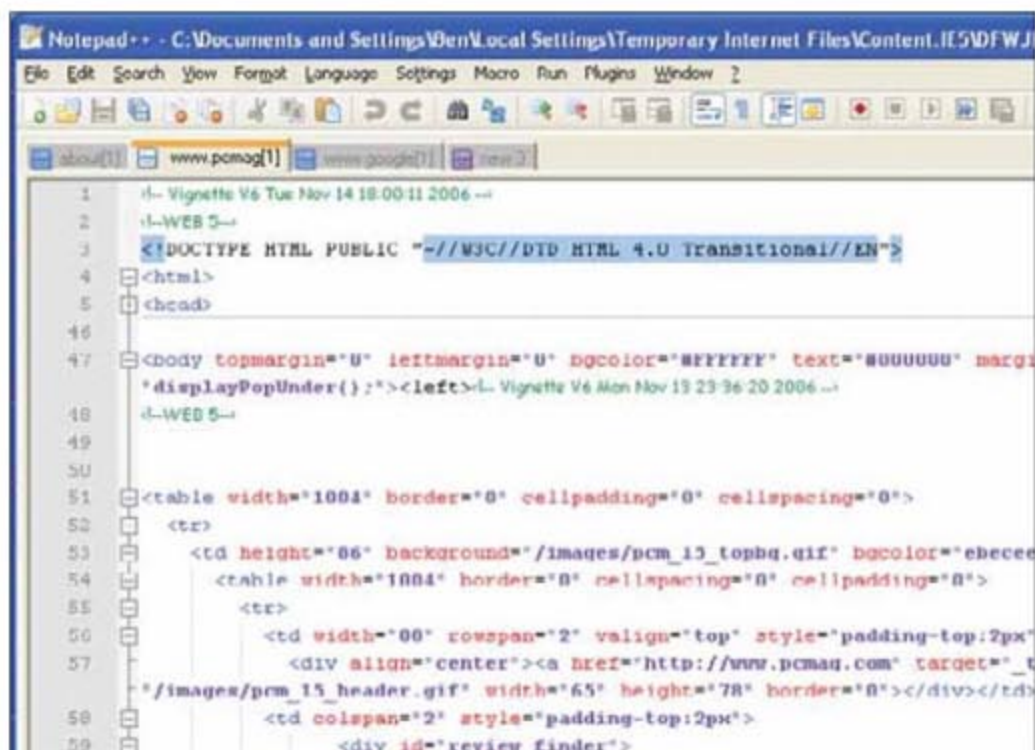
AllChars lets you type foreign characters such as ñ or ü in any application. Just tap the program's hot key (Right Ctrl or any other shift-style key) followed by two characters such as n and the tilde or u and a double quotation mark, and the combined character you want appears in your document. It can also type boilerplate text such as your name or address.—EM

### AnalogX MaxMem [www.maxmem.com](http://www.maxmem.com)

AnalogX MaxMem is the cure for when your older, slower system has the hiccups and needs a reboot. It saves you this annoyance by freeing up memory with just a click, giving your computer its second wind.—Whitney A. Reynolds

### AutoHotkey [www.autohotkey.com](http://www.autohotkey.com)

The open-source AutoHotkey lets you automate all of your repetitive tasks. Scripts can be compiled so you can share them with people who



don't have the app. Not ready to create your own? You'll find dozens of user-contributed scripts on the Web site.—BZG

### Clipomatic [www.mlin.net](http://www.mlin.net)

Clipomatic is the most compact and usable of dozens of clipboard extenders. It stores text that you copy to the Windows clipboard for pasting into any application. You can also store boilerplate text such as names and phone numbers. But avoid it if you use version 7 of Acrobat or Adobe Reader, because it blocks them from saving to the clipboard.—EM

### eCleaner [ecleaner.tripod.com](http://ecleaner.tripod.com)

Ever need to extract text from an e-mail message or Web discussion, but the message is full of angle brackets (>) or other symbols? Or maybe it's got little bits of HTML strewn about. eCleaner quickly goes through these files and strips out the detritus. It's not fancy, but it works.—BZG

### FileZilla [filezilla.sourceforge.net](http://filezilla.sourceforge.net)

FileZilla is a full-featured FTP client that supports Secure FTP, SSL, and other protocols in a slick interface, complete with a tree-structured site manager that lets you store settings for multiple sites. An option to set speed limits can prevent download quotas from being triggered on networks that monitor bandwidth usage.—EM

### Foxit Reader [www.foxitsoftware.com/pdf/rd\\_intro.php](http://www.foxitsoftware.com/pdf/rd_intro.php)

Adobe Acrobat, the ubiquitous software for PDF viewing, can slow older systems to a crawl—or even crash them. Foxit Reader lets you get your PDF goodness without the Adobe bloat. It runs small and swift, either as a standalone app or from within your browser.—WAR

### MULTILINGUAL

Notepad++ is a solid HTML and source-code editor.



### MY FAVORITE FREE PROGRAMS

**John C. Dvorak**  
Contributing Editor  
PC Magazine

- **Atomic Clock Sync**  
Time synchronization
- **Drupal**  
Web content management
- **Firefox**  
Web browser
- **IrfanView**  
Image viewer
- **Joomla**  
Web content management
- **Thunderbird**  
E-mail client
- **VLC Media Player**  
Media player
- **WordPress**  
Blog software





#### CATCH THE WAVE

Audacity lets you record and edit audio files.

#### Gaim

[gaim.sourceforge.net](http://gaim.sourceforge.net)

Gaim hooks into most any chat service you could possibly want. It's a multiprotocol instant-messaging client that works with Google Talk, AIM and ICQ (Oscar protocol), MSN Messenger, Yahoo!, IRC, Jabber, Gadu-Gadu, SILC, Novell GroupWise Messenger, Lotus Sametime, and Zephyr networks. With Gaim, you can talk with your boyfriend on AIM while chatting with a "friend" on Yahoo! Messenger.—JD

#### Google Desktop

[desktop.google.com](http://desktop.google.com)

Google Desktop includes a huge collection of widgets for displaying weather, news, file searches, Gmail, translation services, and more. Google's hard drive index searches only standard file formats.—EM

#### Mozy

[www.mozy.com](http://www.mozy.com)

Mozy is a Web-based backup system that gives you 2GB of free storage, or 30 GB for \$4.95 a month. Sign up with an e-mail address at which you won't mind getting a Mozy newsletter, download the client, and let it automatically back up My Documents and any other folder you choose.—EM

#### MWSnap

[www.mirekw.com/winfreeware/mwsnap.html](http://www.mirekw.com/winfreeware/mwsnap.html)

MWSnap doesn't let you capture scrolling windows or have all the features of the best capture tool out there—SnagIt—but it gives you a lot more control than Windows' native capture utility, and it throws in some cool tools, such as a screen ruler and color picker.—BZG

#### PopTray

[www.poptray.org](http://www.poptray.org)

PopTray is the premier pop-up mail checker for standard POP3 and IMAP mail accounts, including Gmail, and it can be coaxed to work with HTML-only mail such as Hotmail by following the instructions at the PopTray site. PopTray lives in the system tray, pops up reports of new messages, can be controlled entirely from the keyboard, and can be customized.—EM

## FREE SOFTWARE—AT A PRICE

**One Editor's Cautionary Tale** A peril in downloading free software is the possibility of picking up malware. As I researched free programs for this story, a sweep of my system with Webroot Spy Sweeper revealed my first-ever Trojan horse, the NSIS Media Extension. It's an insidious adware program that resists every effort to remove it. (Some places classify NSIS as a dangerous Trojan with the potential to offload sensitive information, but I haven't seen any accounts alleging identity theft from it.) Many security programs don't detect it at all, and most that do—such as Spy Sweeper—don't get rid of it permanently. Although I quarantined and deleted it, it was back on reboot, along with the pop-up ads it spawns. It actually appears in the Control Panel's Add/Remove Programs list—but if you try to remove it that way, it simply reappears on start-up.

Schrock Innovations, a Web site ([www.schrockinnovations.com/removensismedia.php](http://www.schrockinnovations.com/removensismedia.php)) dedicated to removing the NSIS Trojan, recommends starting Windows in Safe Mode, then removing both the NSIS folder that appears in C:\Program Files\Common Files and a specified Firefox folder, emptying your Recycle Bin, and removing NSIS Media from the Add/Remove Programs list (and also Firefox, which you'll need to rein-

stall). The Trojan is usually gone on rebooting, but it didn't work for me. Most of the forums I scoured provided either pat suggestions or complicated Registry tweaks, but one user reported finding two suspect files, `kmsvr32.dll` and `wmdmb32.dll`, in his Windows\system32 directory. He couldn't delete them, but he was able to neutralize them by moving them to a temp file and renaming them. I followed this method, and my system is now NSIS-free.

A likely source of my infection is the Arcade Classic Arcade Pack 5, which I had gotten from Download.com, a usually dependable site. Others, too, claim to have picked up the NSIS Trojan from this arcade package, which originated from Openwares.org. We were not, however, able to reproduce the problem. Another frequently blamed source for the infection is the Foxie browser and firewall. Even reliable download sites can sometimes post problem software. My lessons: Look at reader reviews of the program on the download site, and do a Web search on the program's name along with "virus," "Trojan," or "malware."—TH

**Don't Get Infected!** Free software is great! Everybody loves to get something for nothing. But sometimes you get more

than you bargained for. That spiffy free game might be a Trojan horse. Or your new browser toolbar could be sending your private information back to its home base. How can you get the benefits of free programs while keeping them from dragging along viruses, Trojans, or spyware?

You could stick to free feature-limited or personal-use versions of well-known products—they're almost always safe. The vendor wants to help sales of the full-blown product by getting the free version into as many hands as possible. Including spyware would be a major faux pas! Alas, only a few of the many free programs fit this profile.

Big download sites scan their files for viruses, but they may miss more subtle problems—say, software that selects personally targeted ads by spying on your browsing habits. And with small or vendor-specific sites, there's no telling. So use free software to protect yourself! Install a firewall. Scan for spyware before installing apps, using one of many free scans. (But beware—some rogue antispyware programs may actually be malware in disguise. Check out [spyware-warrior.com](http://spyware-warrior.com).) Let McAfee's free SiteAdvisor steer you away from dangerous sites. With care, you can get something for nothing.—Neil J. Rubenking



### RoboForm

[www.roboform.com](http://www.roboform.com)

RoboForm automatically fills in username and password fields in your browser, with an option to password-protect some or all of the passwords it stores. So you get better protection than you do from the storage features in IE and Firefox. Its SafeNotes feature stores credit card numbers or other secret data. The free version stores ten log-ins; a \$29.95 Pro version stores an unlimited number.—EM

### Tweak UI

[www.microsoft.com/windowsxp/downloads/powertoys/xppowertoys.msp](http://www.microsoft.com/windowsxp/downloads/powertoys/xppowertoys.msp)

Microsoft's super-tweaker tool for Windows XP is the program to install immediately after installing XP. Tweak UI fine-tunes Start Menu and Taskbar settings, helps specify which icons appear on your desktop, sets auto log-in so you can skip entering a password, and much more.—EM

### Ultimate Boot CD for Windows

[www.ubcd4win.com](http://www.ubcd4win.com)

This program helps you create a CD that boots into its own copy of Windows. The disc contains tons of useful utilities, from antivirus and anti-spyware to network and disk-repair tools. And if you're stuck, there's PacMan and Asteroids to pass the time. Rumor has it you can use UBCD4Win to create a bootable USB drive, too.—BZG

### WinMerge

[www.winmerge.org](http://www.winmerge.org)

WinMerge is for programmers who know that as code grows, it gets harder and harder to spot the differences between versions. WinMerge quickly compares two text files or two folders (including subfolders), highlighting all the differences and letting you keep everything in sync.—BZG

### WnBrowse

[www.ngthomas.co.uk](http://www.ngthomas.co.uk)

WnBrowse adds a super-fast, no-frills file viewer to Windows' right-click menus. It displays plain text or hex data—no formatted documents, spreadsheets, or graphics—but that's often all you need, and it opens instantly.—EM

### Yahoo! Desktop Search

[desktop.yahoo.com](http://desktop.yahoo.com)

If you want to index everything on your system, get Yahoo! Desktop Search. It does a brilliant job of sorting, characterizing, and helping you to find all your files and e-mail.—EM

## MUSIC & AUDIO

### Audacity

[audacity.sourceforge.net](http://audacity.sourceforge.net)

This is a powerful audio editing/recording software package that doesn't require much training. It works on Linux, Mac, and Windows, and it han-



dles many file types, including OGG, MP3, AIFF, AU, and WAV (but not WMA or AAC). Its features include 32-bit/96-KHz recording and editing (up to 16 channels), independent speed and pitch control, noise removal, a spectrogram mode, and tons of built-in effects. But it's also perfect for quick recordings and editing long files.—Michael Kobrin

### Media Monkey

[www.mediamonkey.com](http://www.mediamonkey.com)

A robust digital music player for organizing, ripping, burning, converting, and playing your tunes, Media Monkey also has smart tagging, Auto DJ, and a Party Mode that lets you make requests without modifying the library. The free standard version gives you most features but limits MP3 encoding and slows the burn rate. The Gold version is \$19.95.—Erik Rhey

### dBpowerAMP Music Converter

[www.dbpoweramp.com](http://www.dbpoweramp.com)

This do-it-all program for Microsoft Windows lets you rip CDs, convert files, and record audio. It supports MP3, MP4, M4a, WMA, OGG, AAC, APE, FLAC, Apple Lossless, and more. This app integrates with Windows, so you can simply right-click on a file to convert it.—MK

### CDex

[sourceforge.net/projects/cdex](http://sourceforge.net/projects/cdex)

CDex is a CD-ripping and file-conversion app for the extremely picky. It includes many different encoders, including LAME MP3, Fraunhofer MP3, MP2, APE, OGG, WMA, WAV, VQF, and AAC. It also has jitter correction for error-free CD ripping and works with the CDDb database.—MK

## VIDEO & GRAPHICS

### DVD Shrink

[www.dvdshrink.org](http://www.dvdshrink.org)

This app backs up part or all of a commercial DVD by running your Nero burning software automatically to copy the DVD directly to a new one in compressed form. Or, if you don't have Nero installed, you can save the compressed files to your hard drive, then manually burn them to a DVD using

### FORGET YOUR PASSWORDS

Roboform can save your usernames and passwords and automatically log in for you.



### MY FAVORITE FREE PROGRAMS

**Rob Malda (aka CmdrTaco)**  
Creator/Director  
Slashdot

- **memcached**  
Memory management
- **SpamAssassin**  
E-mail filter
- **VLC Media Player**  
Media player
- **XBMC (Xbox Media Center)**  
Media player





#### BRING OUT GIMP

Want to really improve your images? Break out this tool.

your own burning software. For legal reasons, the site has no download link, but it helps you find DVD Shrink on other sites. To the best of our knowledge, using the software isn't illegal, as long as you're backing up your own legally bought files.—EM

#### Gallery 2

[gallery.menalto.com](http://gallery.menalto.com)

If you manage a Web site—be it a personal or community site, either on your own server or a hosted service—Gallery 2 is a great tool for organizing photos and integrating them into the site. Create and manage albums, upload photos, set permis-

sions, and much more. (See our interview with Gallery's creator, below.)—Tony Hoffman

#### GB-PVR

[www.gb-pvr.com](http://www.gb-pvr.com)

With GB-PVR you can schedule and play back recordings from almost any current video capture card or external video capture sources, but it works best with Hauppauge's popular hardware. It also records radio or Net radio and plays back DVDs. An elegant default skin and a set of default plug-ins give quick access to standard broadcast schedules, and a growing plug-in library lets you add weather and other special-interest sources.—EM

#### GIMP

[www.gimp.org](http://www.gimp.org)

It's not Photoshop, but GIMP is an amazingly powerful and efficient open-source bitmap-editing package that can look just as confusing as Photoshop if you open all its floating toolbars and sidebars. You'll need to get used to its nonstandard menus. If you make your living from graphics or photo editing, you'll probably go commercial, but GIMP gets the job done free.—EM

#### Google SketchUp

[sketchup.google.com](http://sketchup.google.com)

This 3D modeling tool matches what its developers call the "pencil" stage of designing—when

## MEETING THE MAKER



**Developer:** Bharat Mediratta

**Open-source creation:** Gallery

**Web address:** [gallery.menalto.com](http://gallery.menalto.com)

**What it is:** A photo editor and manager

**Profession:** Computer scientist and software engineer

**Day job:** Google software engineer

#### Q How did you come up with the idea for Gallery?

**A:** Gallery started in 2000 as a way to host my own photos. My wife had gone on a trip and had come back with photos. So I stuck them in a folder and made it available on the Web. But it was a horrible navigational experience. So I made a script to handle thumbnails, then one for captions, and created a tiny package that let you display the images.

I thought that would be the end of it, but a friend had asked for it, so I put the code on SourceForge so we could collaborate. Soon I realized that a lot of other people were using the script and wanted features. We had hit a sweet spot for digital cameras, and online photo services were available but problematic. So the idea of hosting one's own photos was popular.

#### Q What is the development process like?

**A:** We have a core team of seven or eight developers, a minor business arm that works with photo services and ISPs, and more people working on translation. The most active group is around 20 people. We follow agile development methodologies, an approach to software development that lets you manage change and work with it.

All code is well tested, and core parts of it are ready for release at any given time. We have a more rigorous development environment than most.

#### Q Why open source?

**A:** When I first conceived of it, I had no interest in making money. I use free and open-source software. It's a form of altruism and is its own end. Financial ends are one way to drive satisfaction, but having hundreds of thousands of people using my creation motivates me much more. We've had offers to buy the project, but I'm happy at my day job. We make money through affiliate relationships and donations—it pays for our expenses.

#### Q How important has SourceForge been to the project?

**A:** It would have been challenging to do this without SourceForge. The big advantage is its distribution mechanism. Gallery 2 is a large package, and the total downloads run into the terabytes, which is expensive. SourceForge provided us with an out-of-box way to get the project going—mailing lists, forums, bug tracking. It gave us a tremendous amount of visibility.

#### Q What's on the horizon for Gallery?

**A:** We're about to release version 2.2, introducing features that will make the product more accessible to the masses, including downloadable plug-ins. Gallery 2 is modular, and in 2.2 you can get a list of modules, one-click install, and can accept or reject features. It provides one-click upgrade for all of your modules, so we can push features up much more rapidly than in the past.



you make quick, slightly rough-edged drawings of solid objects, complete with shadows but without the photorealism of commercial packages. This is the least intuitive of Google's software offerings, but it's easier to use than any rival 3D programs.—EM

#### IrfanView [www.irfanview.com](http://www.irfanview.com)

IrfanView displays almost all standard bitmap image formats, is startlingly fast, and uses one-keystroke commands for the quickest-possible access to features such as saving in a different format or flipping upside-down images. You don't get WordPerfect Graphics (WPG) support, but everything else is there. Make this one your default image viewer.—EM

#### Picasa 2.0 [picasa.google.com](http://picasa.google.com)

This photo-management tool from Google creates a library of the images on your computer (or on a particular drive), sorted by date. From Picasa you can edit images with a decent set of editing tools, send photos via Gmail, burn them to CD, or upload them to blogs, photo printing sites, or Picasa's own Web albums.—TH

#### QuickTime Alternative and Real Alternative

[www.codecguide.com](http://www.codecguide.com)

These apps let you play QuickTime or Real videos without Apple or Real's bloated, in-your-face proprietary players. While you're at the download site, get the up-to-date, extensive codec package and check the FAQs for advice on MPEG decoders and demuxers.—EM

#### VLC media player [www.videolan.org](http://www.videolan.org)

The recently upgraded VLC media player plays almost any multimedia file in almost any format, in a more compact and efficient interface than any commercial product. It can't handle Real Media and a few other proprietary formats, however. Even if you prefer Windows Media Player or QuickTime, keep this one handy for files that won't play in either of them.—EM

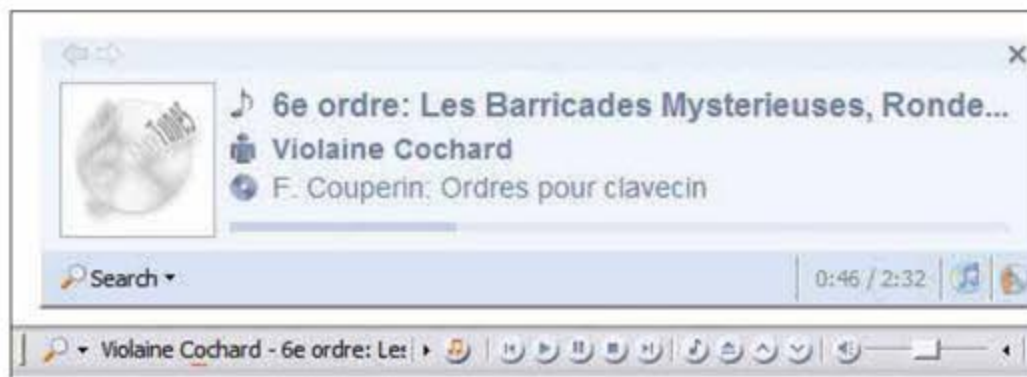
#### Winamp [www.nullsoft.com](http://www.nullsoft.com)

This is a classic alternative music player, free but owned by Time Warner. It's tiny and infinitely skinnable, but the reason you want it on your system even if you use iTunes is that it supports virtually every audio format (except for DRM-encrypted ones) via its enormous plug-in library.—EM

## FIREFOX EXTENSIONS

#### Adblock Plus [adblockplus.org](http://adblockplus.org)

This extension blocks even the most persistent advertising from any Web page, and a toolbar icon



lets you fine-tune pages if it blocks something you want to see. If you still use the old Adblock, replace it with Adblock Plus.—EM

#### Bookmarks Synchronizer

[extensions.geckozone.org/](http://extensions.geckozone.org/)

#### BookmarksSynchronizer

Try this to upload and download your bookmarks to any FTP server or WebDAV site you can access, including sites protected by Secure FTP. Keep your home and office bookmarks synchronized, or synchronize your home machine with bookmarks added on the road. Firefox 2.x users need the version found in the French-language site listed here; choose Installer Bookmark Synchronizer 1.03 or later.—EM

#### FireFTP

[fireftp.mozdev.org](http://fireftp.mozdev.org)

FireFTP turns your browser into an FTP client, with a two-pane file manager for uploading and downloading. It doesn't yet support the increasingly common Secure FTP protocol, but it's useful for working with public FTP sites.—EM

#### FlashBlock

[flashblock.mozdev.org](http://flashblock.mozdev.org)

Replacing Flash animations with a tiny arrow icon, FlashBlock removes those distractions so you can enjoy fast, unmolested browsing. If you find a Flash animation that you want to see, click on the icon or use options to whitelist animations on sites where you want them.—EM

#### Forecastfox

[forecastfox.mozdev.org](http://forecastfox.mozdev.org)

This weather station for your Firefox status bar shows anything from the temperature to a multi-panel display of current and forecasted weather. A click takes you to [Accuweather.com](http://Accuweather.com), and an option lets you create profiles for multiple cities and for displaying tooltips, labels, and alerts.—EM

#### FoxyTunes

[foxytunes.com](http://foxytunes.com)

FoxyTunes installs a miniature media-player control panel on the Firefox status bar. Click on a

#### TWEAK THE FOX

Firefox supports extensions such as FoxyTunes (top) and Forecastfox.



#### MY FAVORITE FREE PROGRAMS

**Robyn Peterson**  
Executive Product  
Director, PCMag.com

- **iDupe**  
iTunes file manager
- **LaCie's SilverKeeper**  
Backup tool
- **MacTheRipper**  
DVD extractor
- **Quicksilver**  
App launcher
- **Senuti**  
iPod file manipulation



## TALK THE TALK

Version 3.0 of Skype adds moderated Skypecast discussions of up to 100 people.



## MY FAVORITE FREE PROGRAMS

**Jim Louderback**  
Editor-in-Chief  
PC Magazine

- **Audacity**  
Audio editor
- **DBpowerAmp**  
Audio tool
- **FileZilla**  
FTP client/server
- **GIMP**  
Image editor
- **IrfanView**  
Image viewer
- **VLC Media Player**  
Media player



button to see what's playing in iTunes, Windows Media Player, or any standard music program. Besides the usual player controls, you can hide and display the music software or launch a floating FoxyTunes toolbar that stays open when you close the browser.—EM

### Gmail Space [www.getgspace.com](http://www.getgspace.com)

Use your Gmail account as storage by uploading and downloading files through a browser-based interface. An optional status bar button brings up a miniature file manager that lets you drag files into or out of your storage space. A toolbar item brings up a full-featured file manager.—EM

### Greasemonkey [greasemonkey.mozdev.org](http://greasemonkey.mozdev.org)

With Greasemonkey loaded, thousands of user-written scripts work automatically when you visit popular sites. One script logs you into eBay; another displays only negative feedback for an eBay member; and another adds icons below a member photo on MySpace for e-mailing, deleting from favorites, and so on.—EM

### MR Tech Local Install [www.mrtech.com/extensions](http://www.mrtech.com/extensions)

This should be the first extension you install, because it saves extensions and themes to your hard drive so you can find them without a Web search. It enables dozens of tweaks to Firefox's

menus and tabs and lets you install officially unsupported extensions.—EM

### ReloadEvery [reloadevery.mozdev.org](http://reloadevery.mozdev.org)

Refresh your current page—or all open tabs—at any interval you choose. This is an ideal option for news pages or sites where you're waiting for tickets to become available. It would be even better if it could remember settings between sessions.—EM

### RSS Editor [rsseditor.mozdev.org](http://rsseditor.mozdev.org)

This lightweight editor creates and modifies RSS feeds, though it's not powerful enough for podcasting. It's faster, simpler, and easier than most standalone RSS editors, and it's neatly integrated into Firefox.—EM

### Session Manager [sessionmanager.mozdev.org](http://sessionmanager.mozdev.org)

This extension saves the layout and addresses of all your tabs when you shut down Firefox, and it also lets you reopen the session later. If Firefox crashes, just restart the browser and Session Manager restores the session.—EM

### Zotero [www.zotero.org](http://www.zotero.org)

Zotero stores detailed information about books. An icon appears in the address bar when you view a page with information about a title at Amazon.com or dozens of library catalogs. Click on the icon and full details pop into your Zotero database, where you can add notes and organize items into folders.—EM

## NETWORKING & MOBILITY

### Altiris Software Virtualization Solution [juice.altiris.com/svs](http://juice.altiris.com/svs)

With SVS, you can run apps virtually and enable and disable programs with a click of the mouse. When the app is disabled, it's gone without a trace; when it's enabled, it appears near-instantaneously. Free for personal use, SVS is great for trying out new applications as well as running apps that conflict with one another. Apps are stored as "packages" that you can either create yourself or find prepackaged by the dozens at SVSDownloads.com, from BitTorrent and Open Office to the FlightGear open-source flight simulator.—BZG

### FreeProxy [www.handcraftedsoftware.org](http://www.handcraftedsoftware.org)

When you're on an open wireless network, it's easy to become a little paranoid that someone is sniffing your traffic. Make your surfing invisible by setting your browser to access the FreeProxy proxy server running on your home PC, which you can connect to securely via the Hamachi encrypted link. (See page 70.) Follow the instructions on the LogMeIn Hamachi Web site and you'll be up in no time.—BZG





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- ☞ Generates secure random passwords
- ☞ Gives you customized search capabilities
- ☞ Up and running in minutes

**Recommended By...**

- ☞ Millions of Users
- ☞ CNET's Software of the Year
- ☞ Wall Street Journal
- ☞ New York Times
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May 24, 2005  
RoboForm Pro 6.3



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**[ROBOFORM.COM/PCM](http://ROBOFORM.COM/PCM)**  
OVER 11 MILLION DOWNLOADS!

 **RoboForm**  
Remembers Passwords So You Don't Have To

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**LogMeIn Hamachi** [www.logmeinhamachi.com](http://www.logmeinhamachi.com)

There's a good chance that if you access your office from home or the road, you connect through a VPN that encrypts all the traffic between your PC and the office network. Similarly, LogMeIn Hamachi creates an encrypted tunnel between individual PCs so you can easily and securely access your home PC from anywhere on the Internet.—BZG

**NetStumbler.com** [www.netstumbler.com](http://www.netstumbler.com)

NetStumbler detects 802.11b, 802.11g, and 802.11a wireless LANs. Run it on a laptop and you can get a good overview of your own Wi-Fi network (or that of others). It seeks out poorly covered spots, and detects overlapping networks that might be generating interference (including unauthorized rogue networks).—Davis D. Janowski

**PowerGramo** [www.powergramo.com](http://www.powergramo.com)

Careful—the person on the other end of your Skype call might be using PowerGramo, an add-on that records conversations. The free version will save the audio for your records, but you'll need to upgrade to PowerGramo Pro (\$19.95) to record each person on a different track, which is useful if you use Skype to do interviews for podcasts.—BZG

**Snort** [www.snort.org](http://www.snort.org)

Snort is probably the world's most widely used intrusion detection and prevention software. It's open-source, with a huge community of folks working to improve it. The bad news is that unless you have a lot of expertise, you'll need to be prepared to spend much time reading and learning how to run Snort.—DDJ

**SightSpeed** [www.sightspeed.com](http://www.sightspeed.com)

SightSpeed provides the best in free (for SightSpeed-to-SightSpeed calls) video calls over the Web. It uses a proprietary VoIP/VoIM (short for voice over IM) system and Web service to carry full-motion 30-frame-per-second video calls, as well as voice, chat, conference calling, and more. You'll need a webcam that supports up to 30 fps and a broadband connection.—DDJ

**Skype** [www.skype.com](http://www.skype.com)

Skype is by far the most popular PC-based VoIP service; it also works in dedicated telephones and other handheld devices. The Version 3.0 beta adds click-to-call to dial regular phone numbers from your PC, and Skypecasts—moderated discussions with up to 100 people.—BZG

## SOURCEFORGE.NET: AN OPEN SOURCE INCUBATOR

Spend any time looking for free software and you're sure to run into SourceForge.net, a site operated by VA Software's Open Source Technology Group (OSTG), which also runs Slashdot, ThinkGeek, and Linux.com. SourceForge supports the development of more than 137,000 open-source software projects—in categories as diverse as games, enterprise, multimedia, and system administration—and makes them available for free download, adding more than 100 per day. "We approve all projects before they're created," says Ross Turk, SourceForge's director of engineering. "We make sure they're legitimate projects, licensed under an OSI license. Only a very small percentage are rejected. We don't exert a lot of control over the projects, but they use our tools."

**Project support** SourceForge provides free Web space for the projects, as well as source code management software and other development tools, mailing lists and forums, and a centralized tracker for managing defects. The site's statistics and rankings, coupled with SourceForge's reputation, help give the projects visibility. The average project has two or three developers, but others have dozens of people working on them. Many of the programs that we feature in this article (Audacity, FileZilla, and Gaim, to name a few) were incubated at SourceForge.

**Navigating SourceForge.net** Finding one's way around SourceForge.net used to be close to impossible for a newbie, but thanks to some new tools, it's much easier now. When you click on any category on the home page ([www.sourceforge.net](http://www.sourceforge.net)), you see not

Browsing 10979 Multimedia project results

Options Filter Details Images Sub-Topics Help

Page: 1 2 3 ... 1098 (Next) 1 - 10 of 10979 Results

Project Name	Rank	Activity	Registered	Latest File
ThinWire RIA Ajax Framework	9	100.00%	2006-06-21	2006-12-07
ThinWire is an RIA Ajax framework for building zero footprint Ajax browser applications that feel like desktop GUI applications. Program Ajax on the server, using an event driven GUI model that reconnects program logic. All Major Ajax Browsers Supported!				
22 Members (2)				
Topic: Multimedia, Frameworks, Enterprise, Dynamic Content, User Interfaces				
Gallery	14	99.99%	2006-06-18	2006-11-13
A slick, intuitive web based photo gallery. Gallery is easy to install, configure and use. Gallery photo management includes automatic thumbnails, resizing, rotation, and more. Authenticated users and privileged albums make this great for communities.				
22 Members (24)				

**IMPROVED INTERFACE** SourceForge.net has become a lot easier to navigate, thanks to new tools.

only capsule descriptions of software projects ordered by rank, but also a menu showing all the topics and several levels of subtopics. (Rank is determined by recent activity and interest. You can also sort the results by other fields such as the number of downloads, the registration date, the OS, and the license.)

You can search for keywords within a project, and an Advanced Search feature lets you find projects by category, submission date, and other descriptors. The streamlined site also makes downloading easier. You no longer have to select a mirror site because the system automatically chooses the one it deems optimal.—TH



### SurfSpeed [go.pcmag.com/surfspeed](http://go.pcmag.com/surfspeed)

For years, we've enlisted the help of readers to test their Internet connection bandwidth for our surveys. We've automated the process with our own tool: SurfSpeed. The real power of this application comes after it reports to our servers and allows you to compare results with others in your ZIP code, state, or country or worldwide. Plus, you'll get a sense of how your ISP measures up to others. And so will your ISP when we publish the results!—DJ

### UltraVNC [www.ultravnc.com](http://www.ultravnc.com)

The simplest free solution to access your work PC from home is LogMeIn Free (not to be confused with LogMeIn Hamachi). For a more powerful Windows remote-access solution, try UltraVNC. It adds file transfer and text chat and is considered the best-performing flavor of the open-source VNC (Virtual Network Computing) protocol.—BZG

## FUN & GAMES

### Banshee Screamer Alarm [tucows.mundofree.com/winnt/preview/156803.html](http://tucows.mundofree.com/winnt/preview/156803.html)

It's everything you'd want in an alarm clock. Banshee Screamer Alarm lets you set multiple alarms, and when each goes off, you have a choice of playing music from a playlist, running a program (though this didn't always work), playing a CD, or shutting down your PC.—BZG

### BZFlag [www.bzflag.org](http://www.bzflag.org)

This multiplayer 3D tank battle is one of the most popular open-source game projects, with more than a million downloads. It's available for Irix, Linux, BSD, Microsoft Windows, Mac OS X, Solaris, and more. Drive your tank around and destroy your opponents, or pick up an opponent's flag and bring it back to your base.—Matthew D. Sarrel

### Cartes du Ciel [www.stargazing.net/astropc](http://www.stargazing.net/astropc)

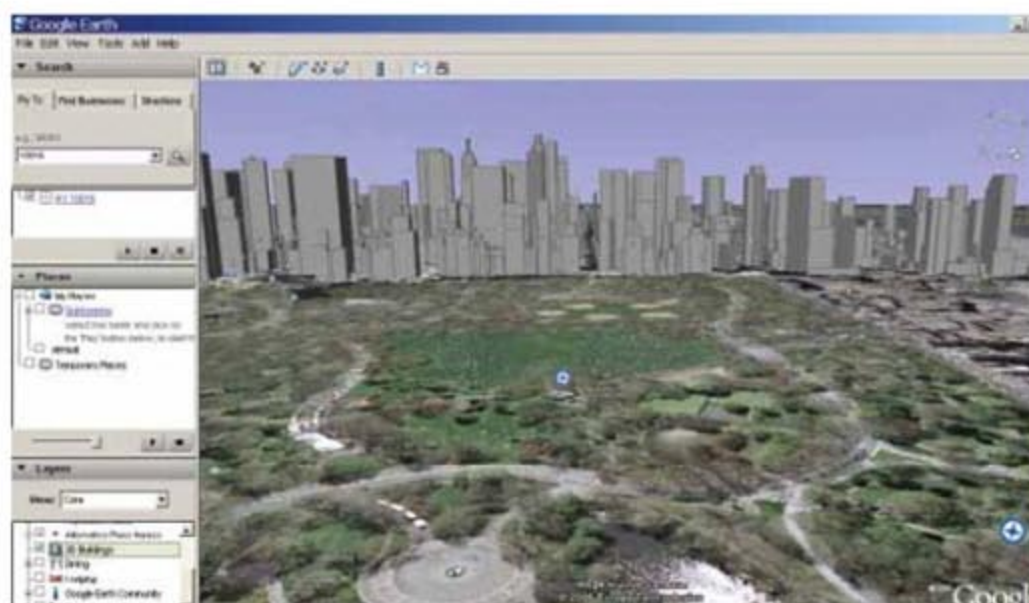
With Cartes du Ciel (Sky Maps), it's easy to find out what constellations and planets are visible tonight. It displays the night sky for any location on Earth, at any date and time. For basic star charts, Cartes du Ciel outclasses many commercial astronomy programs.—TH

### ConWare IconArt [www.conware.org](http://www.conware.org)

This efficient utility lets you create and edit icons and cursors. You can draw the entire image using simple tools such as a pen, spray, and fill. You can also import an image (or part of it), edit it, and save it as an icon.—MDS

### Freeciv [www.freeciv.org](http://www.freeciv.org)

In this turn-based multiplayer strategy game for Linux, Mac, and Microsoft Windows, you can



**AROUND THE WORLD**  
Google Earth can show some cityscapes in 3D.

become the leader of your own civilization and strive to attain greatness. Win by either conquering all opposing civilizations or by using scientific knowledge to build a spaceship to send to Alpha Centauri before your rivals can do so.—MDS

### Google Earth 4 Beta [earth.google.com](http://earth.google.com)

Put the world at your fingertips with this virtual globe to help you plan trips (map driving routes, find restaurants, lodgings, and so on) or have fun as an armchair explorer. Includes content from Google Earth's user community, *National Geographic*, the UN Atlas of Our Changing Environment, the National Park Service, the Travel Channel, and more. You can also create your own overlays. The downside: It's a resource hog, and without a good graphics processor, it may crash or freeze your system.—TH

### Nexiuz [www.nexiuz.com](http://www.nexiuz.com)

This 3D first-person shooter, available for Linux, Mac, and Microsoft Windows, is entirely GPL and is continuously tweaked and modded. The multiplayer death match, which has minimal hardware requirements, will keep you on your toes. Choose from 15 different player models and kill, kill, kill!—MDS

### Tux Racer [tuxracer.sourceforge.net](http://tuxracer.sourceforge.net)

In Tux Racer, you play as Tux the Linux Penguin (though it's for Microsoft Windows and Mac as well as Linux). You must steer through the flags on a slalom course while picking up Tux's beloved herring. Realistic physics means you'll notice a difference between fluffy snow and slick ice. Change the weather and lighting to add to the challenge.—MDS

### ZSNES [www.zsn.es.com](http://www.zsn.es.com)

The ZSNES open-source Super Nintendo emulator, available for Microsoft Windows, Linux, FreeBSD, and DOS, beats other emulators with its superior compatibility, stability, graphics, audio, and usability. The best feature: two-player gaming over the Net. ZSNES can use hardware-accelerated graphics cards, so some games actually look better than they did on the original console.—MDS □



## MY FAVORITE FREE PROGRAMS

**Patrick Norton**  
Host, DLTV  
Editor, *ExtremeTech.com*

- **Audacity**  
Audio editor
- **Firefox**  
Web browser
- **Foxit Reader**  
PDF viewer
- **Golf?**  
3D golf sim
- **LAME**  
MP3 encoder
- **Opera Mini**  
Mobile web browser
- **RazorLame**  
User interface
- **VLC Media Player**  
Media player





## Control Yourself

*Three homeowners jump into the world of home automation to see if the “wow” factor is really worth the hassle.*

**BY JEREMY A. KAPLAN, ERIK RHEY, AND SEBASTIAN RUPLEY**

**A**NCIENT PEOPLES BUILT THEIR DWELLINGS with mud and twigs. Ancient Romans used stones and marble. And ancient 20th-century houses had quaint things called light switches and thermometers with silly little dials on them. With the new millennium came a slew of new protocols for wirelessly automating home functions such as lighting, temperature, and security. In theory, those should be as easy to install as they are to use. *In theory* is the operative phrase here.

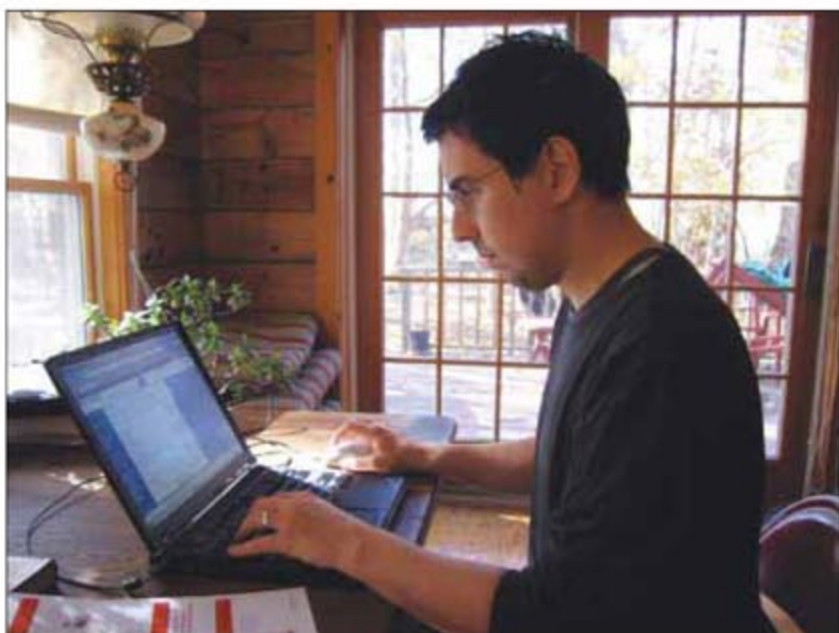
Home-automation products rely on low-power, low-strength data transmissions on a mesh network to control simple systems within a house. Home automation has been around for decades, of course, but it's been clunky and expensive; systems generally had to be installed by a professional. The new generation of devices

is much more affordable and can be installed in a few hours by ordinary mortals—or at least that's the claim.

There are three major protocols embraced by device manufacturers. Z-Wave, created by Danish company Zensys, is a popular protocol supported by hundreds of different devices. ZigBee is another common protocol, but it's used mostly for commercial applications. The final standard is SmartLabs' Insteon, the successor to the X10 protocol that dominated the field for years. It relies mainly on powerline communication, but it also uses RF signals.

To help you sort it all out, we selected three volunteers from across the country with differing needs, presented them with starter kits from major manufacturers, and watched them install the equipment to see if the average homeowner can actually use this stuff—and if the products performed as claimed.





#### SENSE CHANGE

A motion sensor (top left) and door sensor (bottom left) can help secure your home. But good luck replacing an old Honeywell thermostat by yourself.

**SITE MONITOR** iControl lets you keep tabs on your home through the Net.

## Home Security

**N**EW YORK CITY IS HECTIC, AND apartments there are often small and cramped. That's why many city dwellers vacation on Long Island, where space is at less of a premium. Peter Leonard and Kerri Florian are just such a couple, with a house in Brooklyn and a summer cottage on Shelter Island. Pete worries about the cottage when he and his wife aren't around, however, periods that can stretch to several weeks. He wants to keep burglars out and monitor the house's environment: If it gets too cold, the pipes could freeze and cause thousands of dollars in damage.

In theory, iControl is an ideal solution. The company resells products based on various wireless protocols. Its main innovation is the iControl Box and Web portal, which make it easy to configure and monitor devices from a remote location. We set Pete and Kerri up with a starter kit and one month of access to the Web site. The kit requires a broadband connection, and the Wi-Fi camera requires a wireless home network.

Pete dumped the box contents out on the kitchen table and dove in. A friendly starter guide walked him through activating the iControl Box (which connects to his router and talks to the system's control devices) and hooking the wireless camera into his Wi-Fi network. After a few false starts, he had the camera set up. The iControl software can signal the camera to take a photo on any number of conditions—if a door opens, a light goes on, or motion is detected, for example.

The camera doesn't support WPA security, unfortunately, but had the advantage of being relatively easy to install. The other modules weren't so straightforward. The included thermostat was the biggest disappointment. It promised remote regulation of temperatures, as well as notification

of trouble with the heating and cooling system. In theory, Pete could set the house's temperature to a cozy 72 degrees before he arrived.

But iControl's easy-to-follow starter guide included instructions only for the camera. The digital thermostat was manufactured by a different company, and came with a manual with wiring diagrams for HVAC technicians. Pete's Honeywell thermostat is unpowered (as most older ones are), so he would somehow have had to run extra power lines behind the wall. He needed an electrician.

All other parts were undocumented, until Pete stumbled upon a 200-page online manual. At \$649.95 (direct), the Premium Starter Kit should have included a printed manual. Pete needed extensive testing to figure out what turned a door sensor on and off and how sensitive it was, mainly because of latency: It took 3 to 5 minutes before any physical changes in the house electronics were reflected on the monitoring Web site.

In the end, the house's recessed door made it impossible to mount the sensor properly—an irritating disappointment. Pete hooked up a lamp module and motion sensor next, then linked the keychain remote control to his house keys. The lamp module turns on and off via a scheduled process, or when an alert occurs. But in Pete's view, the frustration over installing the sensors and the troubles with the thermostat signify big flaws.

The iControl system did ping him when a serviceman entered his house a week later, a successful test of a vitally important function. He's using iControl for notification purposes now, to find out if something is wrong in the house, and between the motion detector and camera he does feel safer. But the overall process was far from easy—and hard for him to recommend to others. iControl version 2.0 was announced at press time and could fix some of these problems.—*Jeremy A. Kaplan*

## STARTER KIT

### iControl Premium Starter Kit

\$649.95

[www.icontrol.com](http://www.icontrol.com)

- iControl gateway box
- GE Security Micro Door Window sensor
- GE Security 4-button keychain touchpad remote
- GE Security passive infrared motion sensor
- GE Security thermostat
- Axis Communications 207W wireless IP camera
- Axsys Automation lamp module
- One-month subscription to iControl Web portal (subsequently \$14.95 per month)



## Environmental Control

**B**RIAN AND SUZY MIKSIC MOVED TO North Adams, Massachusetts, two years ago to carve out their piece of the American dream. They bought an old Victorian house and spent over a year renovating it. Now the Miksics wanted to add lighting and climate control.

We set them up with the Intermatic Home-Settings Lighting Control Starter Kit, a few extra plug-in lamp modules, a thermostat, and the Monster MCC AVL300-S remote control—all of which use the Z-Wave protocol. There was nothing to be hardwired, so in theory Brian should not have had to flex his handyman muscles too much.

Brian installed the main ControlThink software on his desktop PC on the second floor, but he could still control things from his laptop on the first floor, thanks to Microsoft Windows XP's built-in Remote Desktop utility. But a USB dongle upstairs, which sends signals to the remote modules, had trouble recognizing and adding the lamp modules downstairs. Brian unplugged them all, brought them upstairs, and added them there before plugging them back in downstairs.

The lamp modules seemed to work fine, but the software was a little wonky. For example, it didn't let Brian label the lamp icons or move them to their proper places in the onscreen home layout until he had turned each on and off. Also, the software went back and forth for no apparent reason between recognizing a lamp and not recognizing it (denoted by a red crossed-out icon). When Brian put the USB dongle on an extension cable and placed it on the floor upstairs—most of the modules were downstairs—that seemed to fix the problem. Since we ran this test, a new version of

the HomeSeer software has been released. Called Z-Troller, it promises more control features and a more advanced and easy-to-use interface.

Next up: the Monster remote. It was already late into the night, and the Miksics were a little bleary-eyed. They quickly perked up: Monster's Central Command software is nothing short of awesome, and Brian soon realized that he could have set up all the modules and rooms using just the remote. Once he'd set up the network, dividing the house into zones, he could simply point the remote at a device and press a button.

Granted, updating the remote's firmware multiple times after adding devices was a little annoying, but it was a small price to pay. The remote was a big splurge (\$600 street) but for the Miksics, it paid off. Brian ran around the house with it giddily, exclaiming, "I'm going to attach this thing to my body."

Once they added the lighting and A/V devices to the remote (including flat-screen TV, satellite TV set-top box, and stereo), Brian configured scenes. For example, he configured a "good night" scene, which turns off the TV and downstairs lights and turns on the upstairs lights. The lamp modules dim out slowly instead of turning off instantly and leaving them in the dark.

So what about the thermostat? In the end, because of the thermostat's complexity and electricity requirements, Brian decided to leave it out and stick with his existing thermostat (which has timing capability). After a couple of weeks trying out the system, the Miksics are still happy. Brian added an outdoor module and extra remote, and may try to hard-wire wall panel dimmers down the road. —Erik Rhey

### STARTER KIT

**Intermatic Home-Settings HA101K Starter Kit**  
\$90

[www.homesettings.com](http://www.homesettings.com)

- Two HA03 plug-in lamp modules
- HA07 master remote control

### EXTRA PARTS

- Four Leviton Vizia-RF plug-in lamp modules  
\$77.99 each
- Monster Illuminence lamp module  
\$99.95
- Insteon USB dongle  
\$59.95
- RCS TZ40 thermostat  
\$349.95
- Monster MCC AVL300-S remote control  
\$600



**FOLLOWING DIRECTIONS** Brian Miksic ponders the manual for the Z-Wave system.



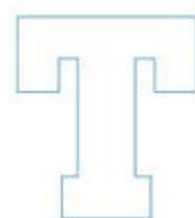
### REMOTE AND LIGHTS

The Leviton lamp module (left), HomeSettings remote (below left), and Monster remote (below).





# Mood Lighting



HERE ARE FEW BETTER WAYS TO save energy and minimize trips around the house than to install a simple lighting-automation kit. We recently proved this at the San Francisco home of a volunteer named Jason.

Jason installed the Smarthome starter kit, which includes lamp modules and a plug-in controller (as well as control software), all of which use the Insteon protocol.

Jason installed the system in just under 30 minutes, which is impressive, even considering that the Smarthome Web site claims you can do it in less than 10 minutes. He did encounter a couple of very minor glitches, however. For example, an attempt to get a wireless signal to go around a couple of corners and into a room about 100 feet away failed. This can be solved with the included signal extenders—white rectangles with antennas

that jut out, very much resembling Wi-Fi access points. Also, Jason's first attempt to dim one of the lamps failed. The problem turned out to be simply a matter of the adapter not being plugged in completely.

Jason decided that the coffee table in front of the couch in his living room was a good central spot for the tabletop controller. He then plugged one signal extender into a socket on the far side of the large room, and another one in a dining room about 50 feet away. However, having a controller tethered to an outlet (instead of a remote control) was not ideal.

The other lamps worked just as easily, and the signal was received by one lamp 50 feet away from a signal extender. Overall, Jason was happy with the ease and performance of the starter kit, although it was clear that he needed quite a few more dimmers and signal extenders to automate most of the rooms of his house.—*Sebastian Rupley*

## STARTER KIT

**Smarthome Plug-In Dimmer Insteon Starter Kit**  
\$99.99

[www.smarthome.com](http://www.smarthome.com)

- Two SignalLine signal extenders
- Two LampLine V2 dimmers
- One tabletop controller

## » AUTOMATE ONLINE

For more home automation tips, visit [go.pcmag.com/automation](http://go.pcmag.com/automation).



**THE KIT ARRIVES** Jason unpacks his lighting starter kit from Smarthome.



**SYSTEM IN ACTION** The Smarthome lighting controller (top) and lamp dimmer module (below).



**SEEING THE LIGHT** This lamp now has dimming and remote on/off capability.

## WHAT ABOUT ZIGBEE?



VISIBLE PLAYERS IN THE HOME-AUTOMATION MARKET also make products that support the ZigBee protocol. You've probably heard the name everywhere. So why didn't we test ZigBee? The answer is simple: For the most part, ZigBee products are designed for business use and are too complex for homeowners. Another factor is that ZigBee equipment is generally too expensive for most of us to use at home. The common scenario is for developers to buy the ZigBee receiver chips and embed them in the systems

they want to control (lighting, temperature, surveillance equipment, and so on).

One of the few companies making boxed solutions for ZigBee is Control4. Control4 manufactures wired lighting and audio/video with high-tech touch-screen controllers and remotes, but it also makes a wireless thermostat for climate control. For most of the equipment you'd need an installer, unless you're very handy with electrical wiring. At least for now, ZigBee remains primarily a technology for businesses and high-end homeowners.—*Erik Rhey*



Welcome to California, Dude



This is California? Home of beach babes and surf contests? It might surprise you that California is also the home of snow bunnies and championship ski runs. Just like it might surprise you that Antec's world headquarters is located in California's Silicon Valley, the heart of technological innovation. Our unique California spirit of performance and originality help make Antec's products market leaders. Like our all-new Nine Hundred advanced gaming case or our environmentally friendly EarthWatts power supplies. So whether it's snowboarding or silicon chips or silent PC cases, think California. Think Antec. Think the Power of You.

**Antec**  
The Power of You



COMPUSA



MICRO CENTER

STAPLES

Fry's Outpost.com

amazon.com

buy.com







# The Green PC

*Save power, money, and the planet with your next PC!*

**BY JOHN BRANDON**

**G**LOBAL WARMING IS CAUSED BY EMISSIONS of carbon dioxide, which trap heat so it can't escape the atmosphere. Although cars, factories and power plants do most of the damage, the computer is at least partly to blame. A PC uses 200 to 400 watts, depending on its configuration and use. By comparison, a refrigerator uses about 725 watts, but a DVD player uses only 25 watts, and your TV is right around 100 watts. A high-performance gaming rig with a powerful graphics card, multiple hard drives and optical drives, a flash memory reader, and a 30-inch LCD might consume as much as 750 watts! Leave such a beast running constantly and you might see an extra \$40 to \$50 on your monthly electrical bill. Ouch.

Yet PC energy consumption is only part of the problem. The manufacturing process for computer parts also has an effect. The typical computer these days contains significant amounts of lead, which is used in soldering motherboards, processors, and other parts. Since the average lifespan of a PC is just three years—according to the EPA—the toxic effects of disposal are quite high.

In Europe, regulations for lead-free computing such as RoHS (Restriction of Hazardous Substances) and WEEE (Waste Electrical and Electronic Equipment), are designed to reduce the effects of hazardous waste. Yet many U.S. PC makers have all but ignored the problem.

That's where you can help. Building a green PC means you can be part of the solution by using all lead-free parts that are also more energy-efficient.



## A Green Power Supply?

### PARTS LIST

Sony DRU-830A optical drive.....	\$90
Antec SOLO case.....	\$90
Sea Sonic S12 Energy Plus SS-650HT PSU.....	\$160
Crucial CT2KIT-12864AA80E DDR2 DIMM (2GB kit).....	\$390
Seagate Barracuda 7200.10 SATA 160GB hard drive.....	\$70
Intel DG965SS motherboard.....	\$130
Intel Core 2 Duo E6700 CPU.....	\$670
Thermaltake Big Typhoon heat sink and fan.....	\$60
Microsoft Windows Vista Ultimate.....	\$400
Logitech Cordless Desktop MX 3200 Laser mouse.....	\$100
KDS K917s 19-inch flat-panel LCD.....	\$190
<b>Total.....</b>	<b>\$2,350</b>

**E**VEN THE MOST Hardcore DIY PC enthusiast may still be surprised to learn that the power supplies in most computers (PSUs for short) aren't designed for energy efficiency. In fact, most computers drain more power than they need during normal operation, leading to higher electrical bills and a more dire environmental impact.

The 80 Plus program ([www.80plus.org](http://www.80plus.org)) is a voluntary certification system for power-supply manufacturers. The term "80 Plus" is a little complicated, so bear with me for a moment. If a PSU meets the certification, it will use only the power it needs at a given load: In other words, it won't use more power than it needs. For example, if your PC requires only 20 percent of the total power of a 500-watt PSU, the system will consume no more than 100 watts. Only when the PC requires full power will the PSU run at the full wattage load.

It's a little like that highly efficient furnace in your home: Instead of just operating at full capacity, an efficient furnace will throttle itself to heat your house using as little power as possible, with no overheating. Older furnaces just push out constant heat to keep you warm in December.

An 80 Plus power supply can save about 85 kilowatt-hours per PC, per year. In many ways, it's the heart of a green PC, since it manages the power for all the other components. It also has the most dramatic effect on your energy bill. Of course, all 80 Plus power supplies are also lead-free and RoHS-compliant.

I chose the Sea Sonic S12 Energy Plus 650 power supply ([www.seasonic.com](http://www.seasonic.com)), an 80 Plus-certified product that runs quietly. In addition, it complies with the ATX12V and EPS12V specifications, which also address the issue of power draw. The 650 uses only the power it needs, unlike older PSUs that manage power less efficiently; an inefficient 500-watt PSU typically drains more than 500 watts of power. Worth noting is that the 650 has all the connections I need for SATA and IDE drives and uses a large underside fan for extra CPU cooling. There are some power supplies out there that draw less power but the 650 gives you the option to grow in the future. It's a heavy bugger; at 6 pounds, it weighs almost as much as a computer case, but I can live with that if it means the Earth is happier!



Sea Sonic SS-650HT An eco-friendly 80 Plus PSU.

### WATT USAGE

Sony DRU-830A optical drive.....	6 watts
Crucial CT2KIT-12864AA80E DDR2 DIMM.....	20 watts
Seagate Barracuda 7200.10 SATA 160GB hard drive.....	9 watts
Intel DG965SS motherboard.....	20 watts
Intel Core 2 Duo E6700 CPU.....	65 watts
KDS K917s monitor.....	48 watts
Other parts and fans.....	Minimal power used
<b>TOTAL.....</b>	<b>168 watts</b>

NOTE: The watts listed are the highest for normal operation when the component is active.

## Greener, Leaner Components

**T**HE GREEN PC USES ALL LEAD-FREE components, starting with the Antec SOLO case. Made mostly from plastics, this light-as-a-pillow case uses the ATX form factor, but the Intel DG965SS motherboard fits into it just fine. In fact, there's an added benefit to using microATX components in an ATX case: The airflow is just a notch better, letting me set the adjustable-rate case fan on the slowest speed without any worries about the CPU overheating.

I installed a Seagate Barracuda 7200.10 160GB SATA hard drive, for two reasons. First, this single-platter drive uses less energy than a two-platter drive would. And second, SATA uses slightly less energy than IDE. The 7200.10 drive is lead-free, of course, and smaller, so it will leave less hazardous

waste when it's thrown out. Next year, both Samsung and Seagate will introduce new drives with more power-saving features, cycling down faster when not in use. They'll be more energy-efficient, too. If you've got the money, upgrade your green PC with a better drive once they are released.

The Sony DRU-830A DVD drive was my top pick for optical storage and playback, mostly because this dual-format burner let me get away with just one optical drive. It consumes a little more energy (just a few watts) than a SATA drive, but you can write both DVD-R and DVD+R discs, as well as CDs, and it's lead-free. For RAM, the system gets two 1GB Crucial DDR2 modules. I debated using just one module, which would use slightly less energy and is certainly possible with the DG965SS motherboard, but decided that



## CPU & Motherboard: Less Is More

**I**RONICALLY, YOU CAN BUILD A GREEN PC that's more powerful than the system you are using today. The reason: The "greenest" components available from Intel and other companies are typically their newest and most powerful. (It's a great time to be eco-friendly!) Also, when you're more selective about the parts and how much energy you use, you can build a system that is both lean and mean—one that exactly meets your needs.

For this project, I wanted to build a highly usable and efficient system. My reasoning: You can build the greenest PC ever, but if you don't actually use it, you're not helping the environment. I wasn't shooting for a video-editing or gaming rig; I wanted a computer that could work well in an office, with Vista-capable specifications.

I chose the Intel Core 2 Duo E6700 processor. This CPU runs 42 percent faster (per SYSmark 2004 SE scores) than the Intel Pentium D 960 yet consumes 40 percent less energy. According to an Intel study (available at [www.intelcapabilitiesforum.net/EEP?s=9](http://www.intelcapabilitiesforum.net/EEP?s=9)), the E6700 costs just \$13.94 in energy to run every workday for a year, compared with \$23.48 for the Pentium D. The CPU uses Wide Dynamic Execution (hence there are more instructions per clock cycle) and Advanced Smart Cache (to make sure that more executions are completed) and therefore uses less energy to do the same tasks.

The CPU can also enter a deep-sleep state that uses less than 5 watts or a hibernation state that uses less than 3 watts—the best ever for Intel. Of

course, performance for this \$530 dual-core processor is amazingly good (better than the CPU we used in the "Best PC" rig from October of last year), yet it consumes only 65 watts—better than previous energy hogs.

I also chose the matching Intel DG965SS motherboard, which consumes 20 watts. This microATX board uses less energy and is less hazardous to the environment than a full ATX motherboard, partly because it's smaller and partly because it's lead-free. I didn't use a small-form-factor case, which would be more appropriate for a microATX board, mostly because the PSUs on those models are usually custom-made and not 80 Plus-certified.

The Intel board has integrated 3D graphics and surround sound, which means you can skip those expansion cards and save more energy. Another advantage is compatibility. The DG965SS supports Windows Vista out of the box and had no technical snafus: Software and hardware testing were error-free. It's just a bonus that this board supports 1-gigabit networking as well.

You can find CPUs and motherboards that are even more energy-efficient, such as those made by VIA Technologies (a company that specializes in green components), and some of those made by AMD, which has a similarly efficient CPU. But the Intel parts I used offer high performance with both energy efficiency and exceptional compatibility.

*Editor's Note: Mobile chipsets like the Intel T7600 will draw less power and can be used in a desktop PC, but they also cost much more.*

would reduce performance too much and make the system less useful.

Finally, I used a trendy Thermaltake Big Typhoon heat sink and fan combo, which looks like a souped-up motorcycle engine. Once again, it's all lead-free, and I wanted to make sure this PC never stuttered or faltered. Also, unlike some Zalman fans I've tried, the Big Typhoon really is whisper-quiet; hence my system should sound as lean as it looks and operates. All told, the box is definitely a bare-bones machine with no fancy memory card ports, no multiple drives for high-end RAID configurations, and no power-plant depleting DX10 graphics cards. But, honestly, it's a PC I'd use for most everyday tasks. And, as we said before, this PC can be easily upgraded at any time to a more powerful configuration.



Crucial DDR2 DIMM  
Lead-free RAM.

### THE TOP THREE ENERGY OFFENDERS

**1 CPU**  
Inside your case, the most power-draining component is the CPU. Intel has worked hard to make the processor more efficient, but the Core 2 Duo still uses about 65 watts of energy. The new Core 2 Duo Extreme will use 75 watts. VIA is well regarded as an industry leader in low-wattage processors, with some barely sipping a dozen or so watts from the power supply (but their performance suffers for it, unfortunately).

**2 Graphics Card**  
The bad news for gamers and those with high-performance rigs is that your ATI or nVidia card is likely consuming 300 watts or more. That's why powerhouse systems need a 750-watt power supply. Fortunately, relief is on the way: Newer cards such as the nVidia GeForce 8800 GTX use only about 250 watts, depending on use. That's still too much for a green PC, though.

**3 CRT Monitor**  
The real culprit in killing trees and causing hazardous waste is the old-school CRT, which can use more than 100 watts by itself. Many contain a lot of lead as well. You can "go green" quickly just by replacing your CRT with a 19-inch LCD, which uses about half as much power and is lead-free.



## BUILDING THE SYSTEM



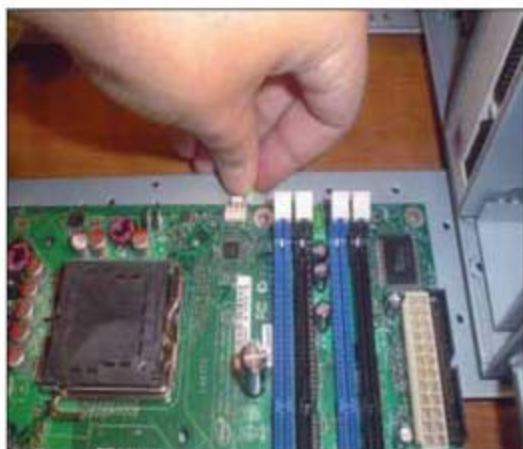
**1 Mount your drives.** Open the front-cover door by gently pulling on the tabs holding it closed. Remove one metal bracket. Screw the clips to the Sony drive and insert it into the open bay. Insert the Seagate Barracuda 7200.10 160GB SATA into an open HDD bay.



**2 Remove the I/O shield.** Tap out the plate on the back of the case, which is designed for ATX motherboards. The Intel DG965SS motherboard comes with its own I/O shield: Snap that into place so that the ports line up correctly.



**3 Prepare for the heat sink.** Install the rear bracket and screws for the Thermaltake Big Typhoon heat sink and fan on the back of the motherboard. We won't install the CPU yet, but if you skip this step, you'll have to remove the entire motherboard later.



**4 Mount the motherboard.** Mount the motherboard into the Antec SOLO case. It's fairly straightforward: Screw in the gold mounting nuts (called standoffs) first. Place the motherboard over them, and then use the longer screws to hold it in place.



**5 Add the power supply.** Now install the Sea Sonic S12 Energy Plus 650 power supply unit. (But don't connect the cord to the wall outlet until we're all finished!) Use the four longer screws that came with the case to secure the PSU. Leave its cables dangling for now.



**6 Jumpers and buttons and ports and ...** Follow the instructions that came with the motherboard to connect the case cables for front lights, power and reset buttons, USB, FireWire, and audio. Consult the Intel Express Install manual on the CD for audio connections.



**7 Mount the heat sink and the CPU.** Next, install the E6700 CPU and the Big Typhoon heat sink and fan. Connect the PSU power cables, then the IDE and SATA cables, according to the instructions that came with the motherboard.



**8 Install your RAM.** Snap the Crucial DDR2 RAM modules into their slots—the open blue ones on the motherboard. Connect the USB keyboard and mouse and an Ethernet cable to the back of the PC.



**9 Load Windows Vista.** Place the Vista disc into the DVD drive. By default, the Intel DG965SS motherboard will boot off a DVD, so there are no BIOS settings to configure. Load Windows Vista Ultimate, and start saving a few trees!



## Get Green Accessories

**F**OR THE FINISHING TOUCH, I ADDED AN energy-efficient monitor to the mix. Expansive 30-inch LCDs are power hogs, consuming more than 100 watts alone. As with motherboards and hard drives, smaller is better. An older KDS K917S 19-inch LCD uses just 48 watts, which is fairly typical for a 19-inch LCD. The ViewSonic VA503B 15-inch LCD uses only 23 watts, pretty much the lowest consumption of any recent model, but I wasn't ready to squint that much, especially with Microsoft Windows Vista Ultimate.

Of course any LCD is better than an older CRT, which can use 80 watts or more, depending on its size. And disposing of a CRT is much more hazardous to the environment, mostly because of the amount of lead in these older displays.

Computer keyboards and mice barely cause any environmental problems: They're usually lead-free, and they consume very little energy. For my green PC, I used the Logitech MX 3200 Cordless Desktop Laser, which squeezes a little more juice out of AA batteries than previous models did, according to Logitech. If your current keyboard and mouse are working fine, you're best off using them longer instead of buying more efficient models—and disposing of the old ones.



**Logitech MX 3200** Logitech's most power-efficient laser mouse.



**Logitech Cordless Desktop MX 3200** Lead-free and Bluetooth.

There are some sacrifices I wouldn't make for green computing. The more peripherals you add, the more power you use, and the more hazardous waste you will end up dumping on the planet someday. But it's easy to take the morally conscious angle too far by never printing or faxing (on-screen viewing has its own hazards!), or by not using a router or network storage device (and living with the obvious detriments of that approach).

Yet for eco-friendliness, one approach is to use just the resources you really need. Skipping a few extra gadgets might not help sales at Best Buy (or the *PC Magazine* reviews team), but green computing is all about small steps towards a better world. In the end, many small steps lead to a giant leap. Perhaps if we all turn off our electronic devices when they're not in use and start using lead-free components, the world may start looking greener after all.

**» ONLINE EXTRA!**  
PC Magazine executive editor Jeremy Kaplan had some great ideas about using low-power mobile chipsets in our desktop PC. [go.pcmag.com/green](http://go.pcmag.com/green)

## WINDOWS VISTA SETTINGS

Windows Vista Ultimate lets you configure power-saving options in more ways than Windows XP did. The operating system can actually throttle performance for some tasks to save energy while you work. If you are just typing a document in Microsoft Word, performance will dwindle. If you are reading video files off a network drive and editing them in Adobe Premier Pro, Vista will use all the processing power available.

For the most energy efficiency, click the Windows icon, then Control Panel, then Power Options. Click the "Create a Power Plan" link, and select the Power Saver option. Name the plan, click Next, and select options for putting the monitor and PC to sleep after a set time period. Click Create. This setting will power down all fans and save energy, both while you work (depending on the task) and when the PC idles for too long.





A woman with long dark hair, wearing a dark zip-up jacket and jeans, is balancing on a wooden post on a grassy cliff. She is smiling and has her arms outstretched. The background shows a sunset over the ocean with a parking lot of cars in the distance.

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## SOLUTIONS ASK LOYD

### THE BLOOPERS ISSUE

**T**his issue's Ask Loyd is a special one, devoted to mistakes readers have made and the lessons we can learn from them. To be fair, though, I'll start with one of my own. This is a favorite from years gone by.

» **NEED ANSWERS?**  
ExtremeTech.com's editor, Loyd Case, tackles your toughest hardware problems each issue. Send him yours at [askloyd@ziffdavis.com](mailto:askloyd@ziffdavis.com)

I had just installed a new graphics card in a system. I powered up the PC, heard the satisfying beeps of normal system start-up, and saw the keyboard LEDs flash as they normally do during a system boot. However, no POST (power-on, self-test) message appeared on the screen. Exasperated, I powered down, reseated the video card and hit the power switch. No POST. After checking a number of things, including power connections and so on, I was starting to get a little frantic. I put the old video card back in. Still no POST.

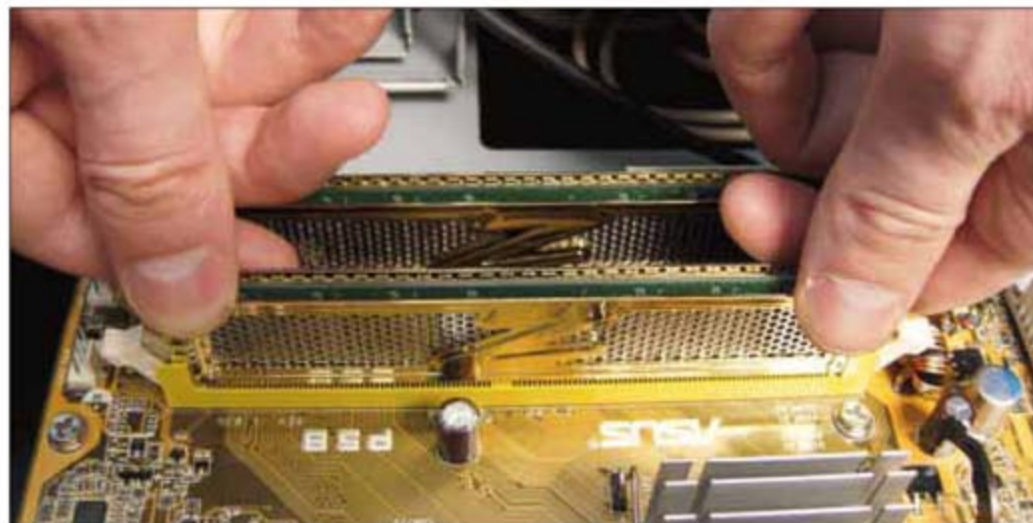
Then my 7-year-old daughter, who had been watching my increasing frustration with grave patience, asked, "Daddy, where's the little green light on the PC?" She meant the little green light indicating that the monitor was on. In fact, the monitor wasn't even plugged into the wall outlet.

Now on to reader bloopers!

#### RAM THE RAM

I had been using a Pentium 2 VAIO desktop until 2001, when I decided to build my first system. I carefully selected and bought the parts over six months and had only the RAM left to purchase. I happened across a great deal at a local retail store and brought home a new PC2100 256MB DDR

Push the RAM module in firmly; when it's properly seated, the latches will clamp in.



to stick into my waiting motherboard. I started everything up (and got goose bumps when I heard the fans whir). Within a few seconds, the motherboard began emitting a heart-wrenching series of beeps. It wouldn't stop! I looked up every beep code for every BIOS and I couldn't pin down the cause of these short, endless snickers at my lack of experience.

Six months later, after I'd RMA'd my processor, motherboard, memory, and power supply (to no avail), I finally found a post that suggested a less-gentle application of force when pushing the RAM into the motherboard. Apparently, I had been much too careful, because when I took the RAM out and pressed it back in more firmly, my "new" computer booted right up!—Kevin

People are often surprised by the amount of pressure it takes to insert a memory module in a PC when they try it the first time. It does take substantial force, but the main signal indicating you've got it seated is when the two little latches at either end of the slot click down.

Note, however, that it's very easy to try to insert the module in the wrong orientation. I once ruined a memory socket by trying to force in a module that was flipped 180 degrees. So do make sure the little slot on the module is correctly lined up with the key tab in the memory socket itself.

#### DRIVE NAME ODDITY

Every six months or so, I do a clean sweep, total erase, and reinstall of my system. One time I had reinstalled most of my programs, but some were conflicting. I could not figure out what was wrong with my installation. I looked at some Web sites for help. They told me the problem could be with the names of my primary drive. My primary drive was lettered G:. I thought that was strange, but I could see the C: drive. What was it? It was an SD (flash memory) card reader-writer! I had left it plugged in during my reinstall. Microsoft Windows assigned it the C: drive letter. I've never left it plugged in again.—Ken Meade

This is more common than Ken might realize. Many systems today ship with flash memory card readers. For whatever reason, the BIOS or Windows Setup always sees such a reader as an available drive, even if no memory card is inserted. Should you try to install Windows on a new, unpartitioned hard drive, the memory cards will consume the first set of drive letters. □





## SOLUTIONS ASK NEIL

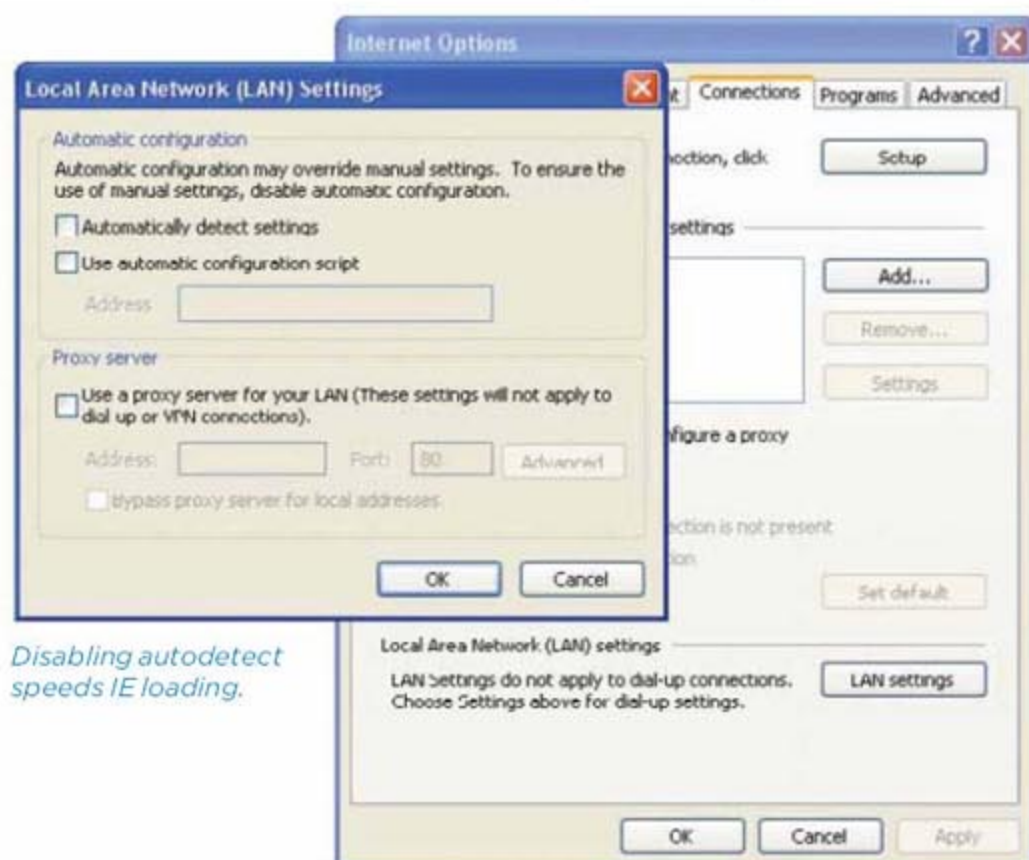
### INTERNET EXPLORER SLUGGISH AT START

**Q** *I have a broadband Internet connection. Every time I try to open Internet Explorer, there is a long delay while it searches for proxy settings. I get a message "Detecting Proxy Settings." I don't use any proxy.*

*My response is just to wait. After about 30 to 60 seconds, IE opens up. How can I solve this problem?—Maurice Olliffe*

» **NEED ANSWERS?**  
Each issue, *PC Magazine's* software expert, Neil J. Rubenking, tackles your toughest software and Internet problems. Send your questions to [askneil@ziffdavis.com](mailto:askneil@ziffdavis.com)

**A** Your browser really shouldn't take so long trying to detect those settings, but since there's nothing for it to find, you can just tell IE to stop wasting time looking. Select *Tools | Internet Options* and click the *Connections* tab, then the *LAN Settings* button. In the dialog box that appears, uncheck all the boxes, particularly the one labeled *Automatically detect settings*. Click *OK*, then *OK*. Now when you launch the browser, it will get right to work instead of fooling around looking for something that doesn't exist.



*Disabling autodetect speeds IE loading.*

### SEARCH WEB PAGES FOR BOLD TEXT

**Q** *How can I change the color of text highlighted as bold on a Web page? I search the Federal Register for key words (see [www.gpoaccess.gov/fr/advanced.html](http://www.gpoaccess.gov/fr/advanced.html)). The term I searched for is returned in bold in the text of the complete Federal Register record. Sometimes the bold text is difficult to find when the complete record is large. Is there a setting on my Web browser I can change so that bold text is shown as both bold and red?*

*The workaround I have tried is to save the record to HTML. Then I open it in FrontPage and search for the tag STRONG to find the bold text. Is there any easier way?*

—George T. Willingmyre, P.E.

**A** There's an easier way than digging into the HTML. Highlight the text in your browser and Copy/Paste it into Microsoft Word. Press *Ctrl-H* to invoke the *Find/Replace* dialog. Click the *More* button. Click in the *Find what* box, click the *Format* button, choose *Font* from the menu, select *Bold*, and click *OK*. Then click in the *Replace with* box and do the same, but in the *Font* dialog select *Bold* and *Red*.

When you click on the *Replace All* button, Word will replace all bolded text with the same text formatted both bold and red. You'll be able to scan the text quickly to find the important items. You can even save the page as a DOC file, if that's useful. There's one minor oddity: If the bold text is part of a phrase that has a hyperlink, the entire phrase will be made bold and red.

### VIRTUAL MEMORY LOW—WHAT TO DO?

**Q** *What do I do to fix the virtual memory when it is too low?—Chris Parks*

**A** I assume that you got a little balloon in the bottom right-hand corner announcing that your virtual memory is low and that Windows is adjusting it. If this happens just once, don't worry—as the message said, Windows found a problem and fixed it. But if it happens repeatedly, it could be that your settings don't allow Windows to make the necessary adjustment. First, make sure your drive isn't overly full. In Windows Explorer, right-click the drive icon and choose *Properties*. If the amount of free space



is under about 10 percent, you'll need to free up some space. You can use the Disk Cleanup button right next to the free space indicator, or manually move some files to off-line storage, or uninstall unnecessary applications—whatever it takes to get more free space.

If low drive space isn't the problem, the virtual-memory settings may be wrong. Right-click *My Computer* and choose *Properties*. Click the *Advanced* tab. Click the *Settings* button in the *Performance* panel. Click the *Advanced* tab in the *Performance* dialog. Click the *Change* button in the *Virtual memory* panel. Whew! This setting is buried quite thoroughly! Look for the *System managed size* option, select it if it isn't already selected, and then click *OK*, *OK*, *OK*. That should end the warnings.

## RECHECK SPELLING IN WORD

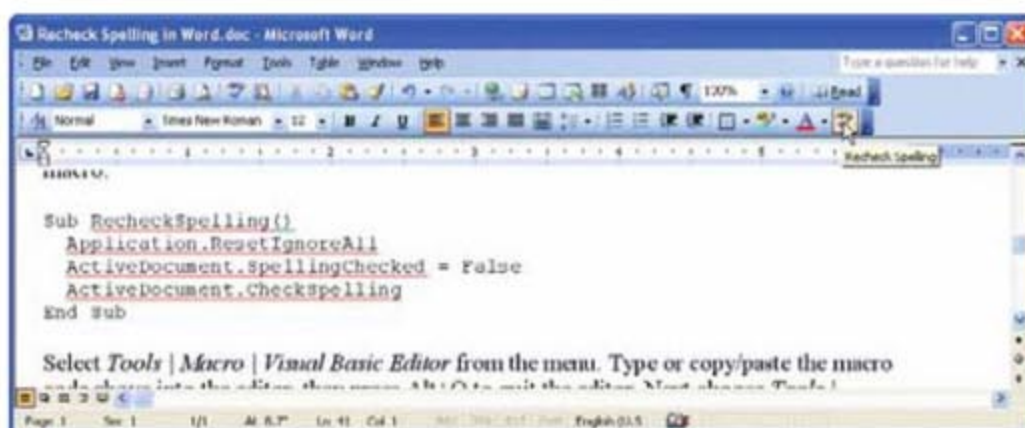
**Q** In Microsoft Word I sometimes misspell a word, such as "irrevokable," and accidentally say *Ignore All* in a spelling pass. To get the spell-checker to reset, I have to choose *Tools | Options* from the menu, click the *Spelling & Grammar* tab, and click the *Recheck Document* button. That will get the speller to check all words. Is there an easier one-button way to do this, or to turn off something so it always checks all words?—Tom Dettloff

**A** You can't turn off Word's response to the *Ignore All* command. In effect, you'd be telling it "Ignore me when I tell you to *Ignore All*"—and computers don't handle that kind of logic very well. Remember what happened when Captain Kirk confused the *Nomad* probe? Blooey! But don't worry, you can write a short macro to do the job and then assign it to a toolbar button.

Coercing Word into rechecking the document does require a bit of preparation, but it's all very logical. First you have to reset any exceptions created by choosing *Ignore All*. Then you have to clear the flag that tells Word it already spell-checked the document. Now you can call on Word to check the spelling of all words in the document. These three steps are easy to see in the macro code:

```
Sub RecheckSpelling()
    Application.ResetIgnoreAll
    ActiveDocument.SpellingChecked = False
    ActiveDocument.CheckSpelling
End Sub
```

Select *Tools | Macro | Visual Basic Editor* from the menu. Type or Copy/Paste the macro code above into the editor, then press *Alt-Q* to quit the editor. Next choose *Tools | Customize* from the



menu and choose *Macros* in the *Categories* list. Find your *RecheckSpelling* macro in the *Commands* list and simply drag it onto the toolbar of your choice. It will immediately appear as a toolbar button—a very ugly one, with no icon and a long name. So, let's give it a makeover.

Leaving the *Customize* dialog up, click the *Tools* menu, right-click the *Spelling and Grammar* menu item, and choose *Copy Button Image* from the menu that appears. Now right-click your brand-new button and choose *Paste Button Image*. Right-click it again and choose *Default Style*. Finally, click the *Close* button in the *Customize* dialog. Now any time you want to recheck a document's spelling, you need only click that lovely new toolbar button.

*This handy macro forces Word to recheck the spelling of a document completely, even words that were ignored during the previous spell-checking.*

## BLANKETY-BLANK E-MAIL MESSAGES

**Q** I'm using Microsoft Outlook Express 6 for my e-mail. Recently some recipients have told me that the word "Blank" appeared at the beginning of the e-mail they received, for example, "BlankJohn" rather than "John" as the salutation, or "BlankHave you . . ." rather than "Have you . . ." Sometimes the same thing appears in the copy in my *Sent Items* folder, but not always. One recipient even told me he received one of my e-mail messages with an attachment called *BlankBkgrd.gif*. How do I prevent these?—Bob Costner

**A** Your message suggests the problem shows up in some messages you send, but not all. I'm guessing it appears in those where you originate the message, but not when you just reply to an existing message. In that case the culprit is almost certainly a corrupted stationery file. Select *Tools | Options* from the menu and click the *Compose* tab. There's a *Stationery* section in the middle of the tab. If the box to use stationery for mail is checked, either uncheck it or click the *Select* button to choose one of the other stationery files. (Note that selecting the stationery called "Blank" is not the same as selecting the drop-down option "<None>.") Send yourself a message just to make sure that the problem is gone. □



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Product	Signal	Receiver Type	Installation	Note
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iMON Knob *				
iMON Inside		Internal USB	3.5" Drive Bay	Power On
iMON VFD *			5.25" Drive Bay	Power On, VFD Display
iMON 2.4G LT	RF (2.4GHz)	External USB		
iMON 2.4G DT		Internal USB	PCI Slot	Power On

\* Tom's hardware 'MUST HAVE' awarded 2005

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Main View



Folder View



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Setting View

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LCD Indicator:	Built-In
Power Supply:	Zalman powered
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Graphic Card:	7600GS
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LCD Touch Screen:	7inch LCD Touch Screen
Power Supply:	Zalman powered
Optical Drive:	DVD +-RW Drive
Utility S/W:	Phoenix Recover Pro™ 6
Keyboard:	ca eTrust 1yr
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## MonCaso 932 SERIES

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## SMB BOOT CAMP

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*Forget daily status reports. Set up a wiki to collaborate more effectively with your project teams.*



## EVOLVED MEDIA NETWORK

**Size:** 20 freelance employees

**Challenge:** Organize a team of writers, clients, transcribers, graphic designers, and producers to improve project communication

**Solution:** TWiki (free)

**Savings:** 90 percent of administration time; 20 man-hours per week

BY MATTHEW D. SARREL

**E**VOLVED MEDIA NETWORK IS A SMALL NEW YORK CITY-BASED COMPANY that writes books, white papers, and technical documentation for other companies. Its structure is such that each project is staffed by an editor/analyst and several writers. The editor/analyst interviews experts about the technology, other staff transcribe and organize the interviews, and then the writers start writing. "On a recent project we created a highly technical, 450-page book on SAP using two editor/analysts and five writers," says Dan Woods, the company's founder. A large project? Yes. But a traditional content-management system, with document check-in/check-out and user-privilege administration, was too big a solution.

Team members keep track of everything they do using a wiki. "The value of wikis comes from a group of people who are now working together in a different way," says Woods. "Content is shared, and everybody's progress is visible to each other. It's no longer my chapter or your chapter. Now it is the book, and we're working on it together."

Wikis will become mainstream in at least **50 percent** of enterprises by **2009**.

Source: Gartner.

### Businesses with internal Web sites:

There are 1.4 million businesses in the service industry with 5 to 1,000 employees. Less than 5 percent of them have an internal Web site.

Less than 5%

Source: Forrester Research.

## HOW YOU CAN DO IT

A WIKI (THE WORD IS SHORT FOR THE HAWAIIAN *wiki wiki*, meaning *fast fast*), is a Web site that lets visitors easily add, remove, and edit content. Wikis are effective tools for collaboration because they're easy to set up and use. Probably the most famous and familiar example of a public wiki is Wikipedia ([www.wikipedia.org](http://www.wikipedia.org)).

Among the following tips, we list some popular wiki services to try. Keep in mind Google's recent acquisition of JotSpot, one of our favorite wiki services; it may mean that the search giant intends to offer hosted wiki services also.

**CHOOSE A LEADER.** Wikis are all about democracy and collaboration, but someone in your organization will need to be in charge. This means taking basic responsibility for the wiki, entering information, and motivating others to contribute. If the wiki doesn't contain valuable information, it will wither and die.

The leader should train and educate users, tweak the wiki's functionality and appearance, and link content to provide as much information to users as easily as possible.

**STRUCTURE YOUR WIKI.** A wiki can be highly structured or quite loose. At a minimum, you'll want to keep meeting notes, task lists, team and member pages, and key documents on your wiki.

**MAKE COLLABORATION THE PRIORITY.** Encourage your staff to use the wiki, and make sure that its structure and content are flexible and useful. The best to make a wiki fail is simply to ignore it.

**TEST-DRIVE SERVICES.** You can experiment with formats and learn how a wiki may help your team communicate. Here are a few suggestions:

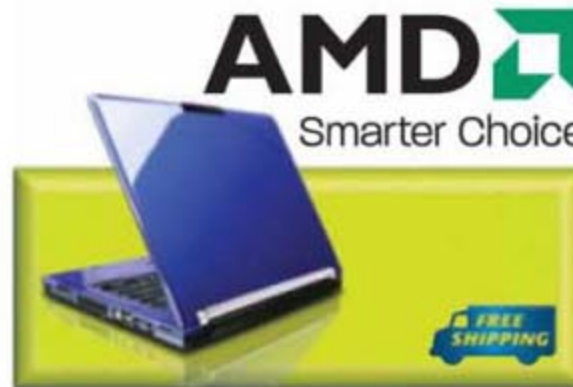
**WIKISPACES** (ad-sponsored or \$5 per month without ads, [www.wikispaces.com](http://www.wikispaces.com)) is a comprehensive wiki service aimed at consumers. Start with the very accessible site tour.

**TWIKI** (free, [www.twiki.org](http://www.twiki.org)) is a structured wiki for corporate collaboration and internal knowledge management. New entries are made by filling out HTML-based forms that categorize content and place it into a database.

**SOCIALTEXT** (free for up to five users; after that, rates scale, though still free for open-source efforts; [www.socialtext.com](http://www.socialtext.com)) has a variety of deployment options, from personal up to the enterprise level.

**MEDIAWIKI** (free, [www.mediawiki.org](http://www.mediawiki.org)) is well suited as an external, public wiki. Wikis tends to be largely text-based. Users create new pages or modify existing ones using a combination of text and lightweight markup code similar to HTML. A wiki home page lists the documents most recently modified or added to the system. □





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- Corsair 1024MB PC6400 DDR2 800 Dual Channel Memory
- 250GB 7200RPM SATA-II 3.0Gb/s 8MB Cache Hard Drive
- (2) NVIDIA® GeForce® 7600 GS 256MB DDR3, 16X PCI Express
- 18X DVD+-RW Drive & 16X DVD-ROM
- NVIDIA® nForce® 5 7.1 3-D Surround Sound
- 600Watt Subwoofer Speakers
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AMD Athlon™ 64 X2 4600+ Processor	\$ 1269
AMD Athlon™ 64 X2 4200+ Processor	\$ 1225
AMD Athlon™ 64 X2 3800+ Processor	\$ 1189

AMD Athlon™ 64 X2 5600+ Processor	\$ 1355
AMD Athlon™ 64 X2 5200+ Processor	\$ 1129
AMD Athlon™ 64 X2 4600+ Processor	\$ 1045
AMD Athlon™ 64 X2 4200+ Processor	\$ 999
AMD Athlon™ 64 X2 3800+ Processor	\$ 965
AMD Athlon™ 64 3800+ Processor	\$ 925

AMD Turion™ 64 X2 Mobile Technology TL-64	\$ 1535
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AMD Turion™ 64 X2 Mobile Technology TL-52	\$ 1359
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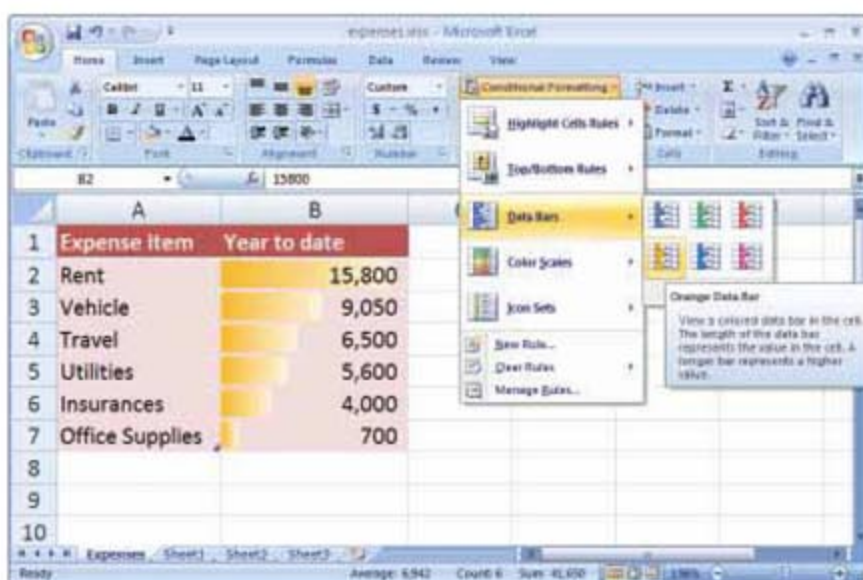
OFFICE 2007

# Introducing Excel 2007

**A** LONG WITH ITS NEW INTERFACE, MICROSOFT Excel 2007 offers several subtle improvements to those spreadsheet tools you use every day. Start with the worksheet size, now in excess of 1 million rows by 16,000 columns. Lists are now called Tables. You now have more color selections for formatting, and Excel's styles and new table formats take advantage of these. Chart types are easier to read; you can select styles to format charts quickly; and objects such as titles and data tables are easier to find and configure in the *Chart Tools* tab.

After formatting a chart to your liking, you can save it as a template. When you copy and paste a chart into Microsoft Word, the chart is linked by default so that changes to the Excel version of the chart affect the version in Word.

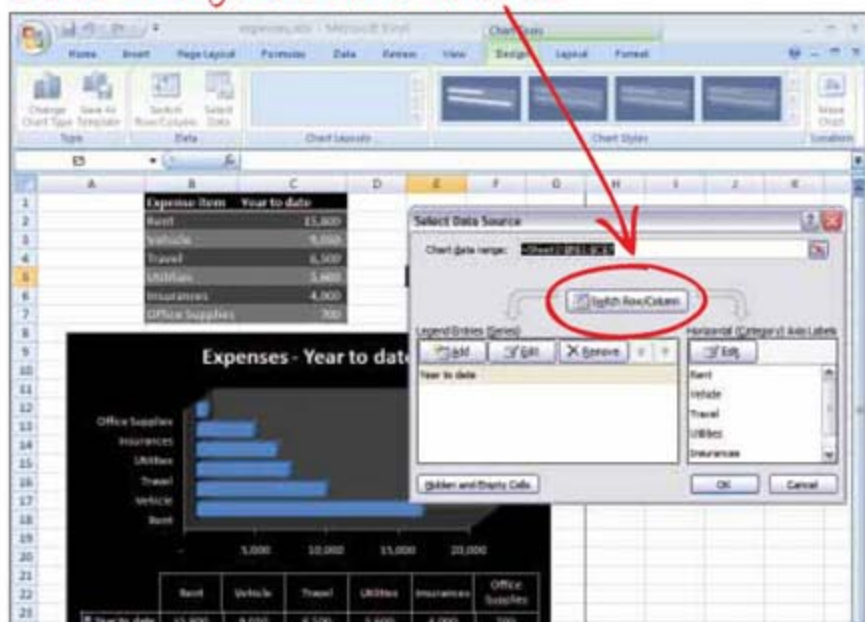
Conditional formatting is more extensive than in past versions and now includes data bars, color scales, and icon sets. You can find and write an unfamiliar formula by selecting it from the *Formulas* tab. As you work, keep an eye on the ribbon and tabs—they'll be guides to the commands available for the task you're working on.—Helen Bradley



## DATA BARS

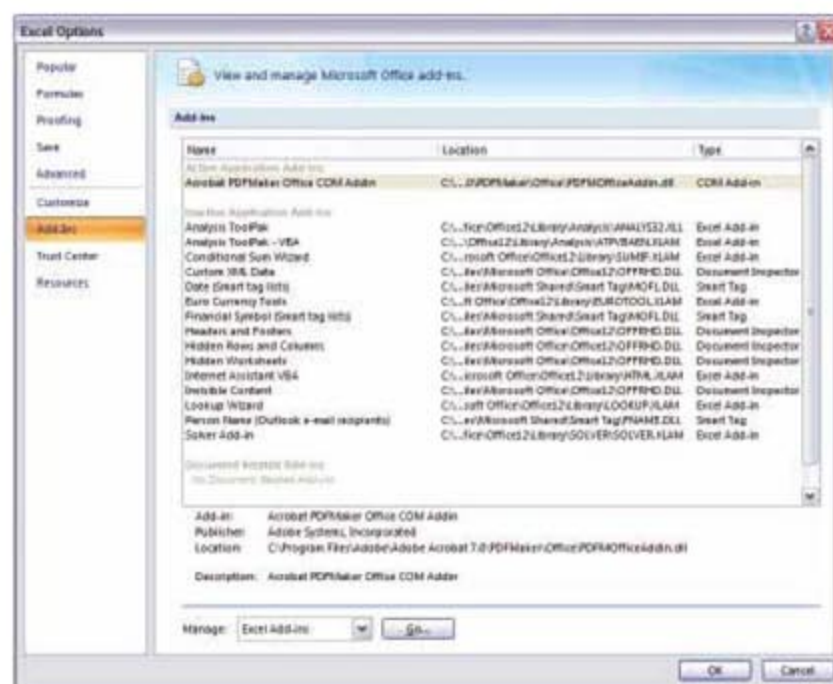
To show the relative magnitude of values in a series of cells, use data bars, available from the Conditional Formatting command. These colored bars display the relative size of the values in a selected area. Use them as guides only—the bar length is a minimum of 10 percent, even for values that are much smaller.

## Chart dialogs are more intuitive



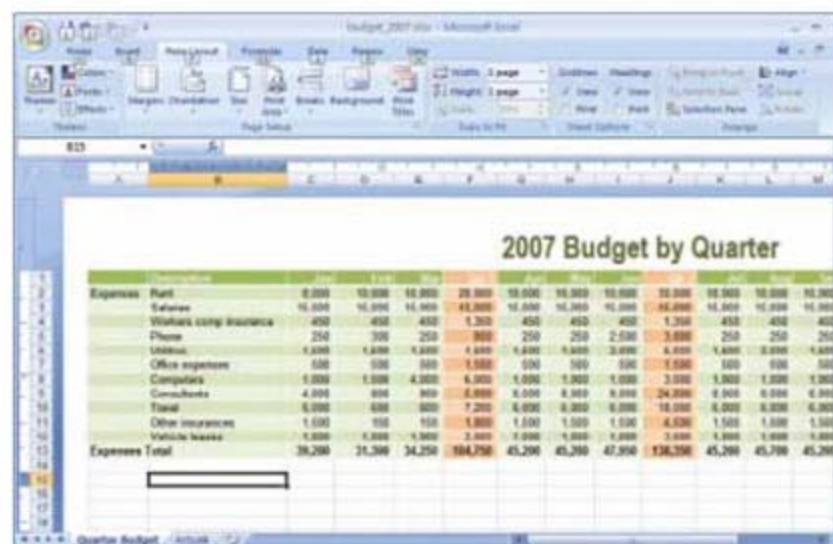
## CHARTING

The new chart features in Excel involve some changes to how you're used to working. In place of dragging and dropping cells to add them to an existing chart, you'll now use the *Select Data* option in the *Design* tab.



## ADD-INS

To make Excel add-ins active, so they appear on the ribbon, click the *Office* button and choose *Excel Options* | *Add-ins* | *Go*. Enable at least the *Analysis Toolpak* and *Solver*—others, such as the *Lookup* and *Conditional Sum* wizards, are handy, too. When installed, add-ins appear on the *Data* and *Formulas* tabs.



## PAGE LAYOUT VIEW

New to Excel is the *Page Layout* view, selectable from the *View* tab. Use it to work on your worksheet design, page by page. Click the prompt at the top or bottom of the page to add a *Header* or *Footer* and to set page options from the *Page Layout* tab.



# Business Travel Tips

*Traveling for work is a way of life, but it puts private data at risk. Here are some strategies to keep your confidential info to yourself.*

BY RUSSELL MORGAN

**M**AKING THE MOST OF YOUR TIME on the road is a top priority, but the trick is making sure that this doesn't come at the expense of security. Checking your e-mail while waiting for your plane to board, fine-tuning a business proposal during the flight, and browsing online in a hotel café are popular ways to spend time during business travel—and crooks know this. Fortunately, there are tools you can use and steps you can take to help keep your information and hardware safe.

**USE SECURITY SOFTWARE** Plain old common sense? Yeah. But security software is necessary to protect your data. Though most wireless networks have some level of security, the more protection you have on your laptop, the better. Even a basic password can help protect your information should your laptop be stolen. Antivirus and antispyware software combined with firewalls will decrease the likelihood that a hacker or identity thief can snag private info.

**BACK UP YOUR DATA** In case your laptop or smartphone is stolen or misplaced, put essential files on a flash drive or CD before you leave. Another option is to use paper to save important information. Printing out your list of important contacts is a great way to back up your electronic device.

**FOIL NOSY NEIGHBORS** Use a privacy screen filter, such as the one made by 3M, which obscures your laptop screen to those not viewing it head-on.

**BEWARE OF HOT SPOTS** Wireless hot spots are not as secure as you might hope. Anyone can download a packet sniffer, often free, and use it to capture passwords, credit card numbers, and bank account information as it's transmitted between your laptop and a wireless access point.

Using a virtual private network (VPN) to connect to your office can make using public hot spots safer, because your information is encrypted as it travels. If your company does not offer a VPN for employees, there are services you can subscribe to for a minimal monthly fee (for PC Magazine's reviews of remote-access products, see [go.pcmag.com/remotaccess](http://go.pcmag.com/remotaccess)).



**BE EVEN WARIER OF PUBLIC COMPUTERS** Just as you need to protect your privacy on your own hardware, take extra precautions if you use a public computer. Remove all traces of your work by deleting any documents you have viewed. Clear the browser cache and the history file, and empty the computer's recycling bin before you walk away. There is also a risk that a password-capturing program may have been loaded onto the computer. Using password-manager software, such as RoboForm (the mobile version, \$19.95 direct, resides on a flash drive for easy portability), will protect your usernames and passwords.

**USE YOUR COMMON SENSE** In addition to using a variety of security-enhancing tools that keep your information safe, keep your head! Be aware of your surroundings and lower your voice when discussing business—or personal—matters. Take simple measures to protect your hardware, such as using a cable lock to secure your laptop in your hotel room, and be sure to lock your computer bag in the trunk rather than leaving it inside the car. Taping your business card to your laptop helps ensure that your computer can be easily returned in case you lose it.

*Russell Morgan is the president and founder of the Information Technology Solution Providers Alliance (ITSPA), a national nonprofit organization of technology experts headquartered in Portland, Oregon.*

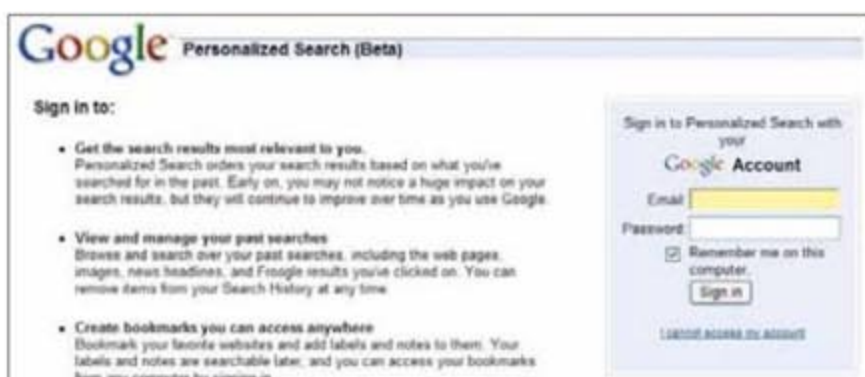


# Cover Your Tracks Online

**W**HEN, IN AUGUST 2006, A VENDOR FOR AOL released search records on 657,000 AOL users, it was easy to look at the queries associated with specific users and determine what kinds of people they were and ultimately who they were. Your online activities could—do—end up in a database somewhere. Read the privacy policy of your favorite search engine, and you'll see what methods it employs to collect valuable data about its users. Then consider how many times you've read about security breaches that result in data leaks.

There is a way to remain somewhat anonymous on the most popular of all search engines, Google. Remember that

if you have a username log-in with any of the Internet search engines—say, a Microsoft Passport or a webmail account—their systems can build a profile of you. If you're truly paranoid you may want to delete or cancel any free e-mail accounts that are associated with Web search engines and scrub their cookies from your hard drive. If you use any of the services from Google, such as Wallet, Groups, Gmail, or AdSense, or even if you get paid by Google AdWords on your own Web site, then you have an account that points back to your identity. This means that everything you do within the search can now point back to you as a unique user.—Dave Mathews, freelance writer and non-anonymous owner of [www.davemathews.com](http://www.davemathews.com)



## 1 YES, YOU HAVE TO SIGN IN FIRST

To remove Google's Personalized Search, head on over to [www.google.com/psearch](http://www.google.com/psearch) and sign in to your account.



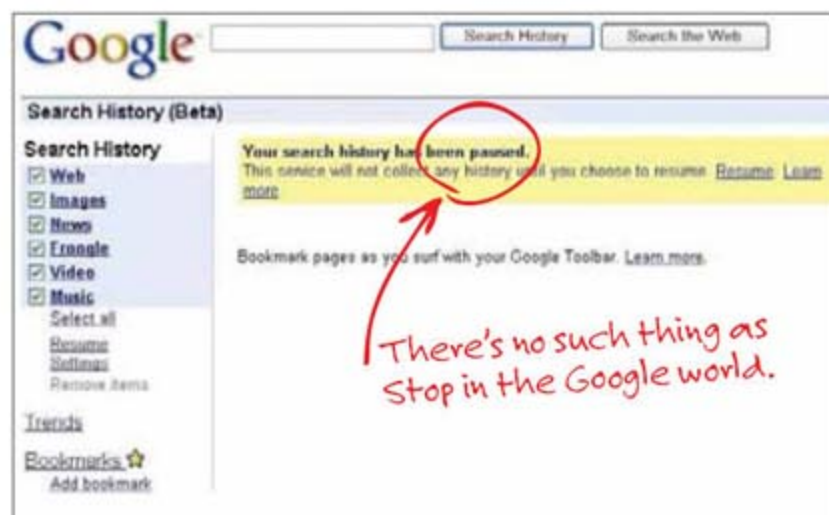
## 3 CLEAN YOUR SLATE

Select the Clear Search History button, check off items that you wish to remove, and then click the Clear History button. Remember that even after you remove items, logs and backups will exist on Google's servers.



## 2 STROLL DOWN MEMORY LANE

Take a look at the Search History page and pick some days on the calendar to see every search made since you created your Google account. Scary, eh? I don't know what I had for lunch yesterday, but Google knows what I was interested in a year ago!



## 4 STOP THE COLLECTION

To prevent Google from collecting this data in the future, select items such as Web, Images, and News that you don't want to collect data, then press the Pause button.

**Feeling paranoid? Don't trust Google?** Check out our tip on the Torpark plug-in for Firefox, [page 95](#).







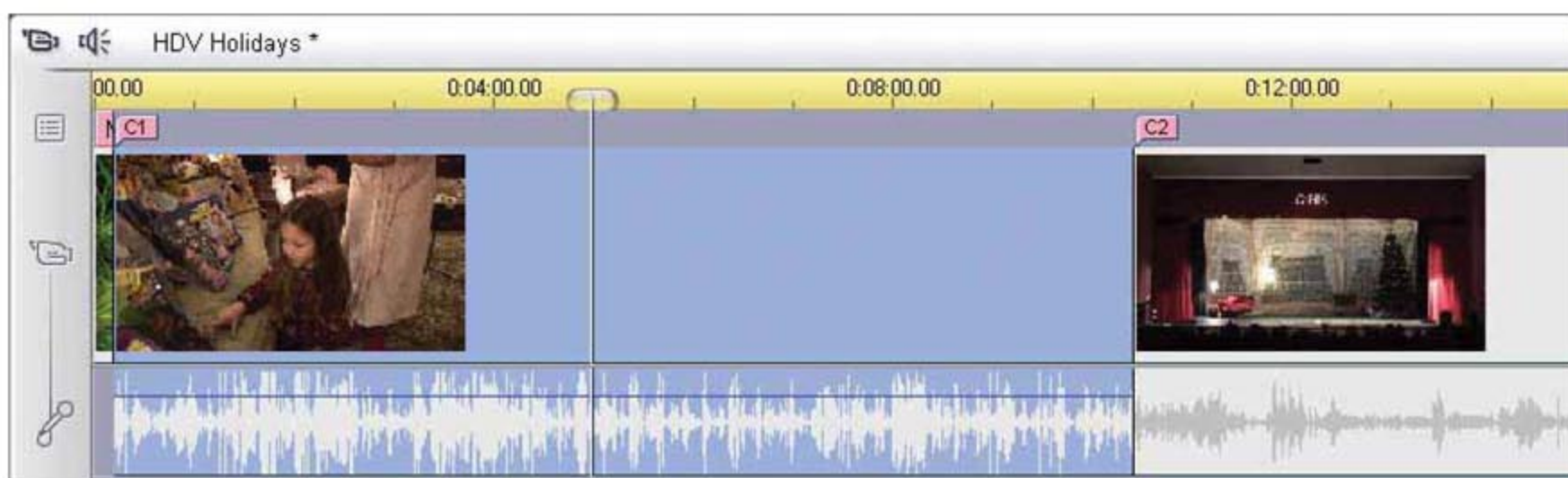
## HIGH-DEF VIDEO

# Burn HD on Plain Old DVDs

**O**WN AN HDV CAMCORDER AND A HIGH-DEFINITION TV? You've probably been frustrated at not being able to watch your videos in all their high-definition glory without connecting your camcorder to your HD TV. With the latest version of Studio (10.7), Pinnacle added the ability to burn HD DVD-formatted discs on standard DVD±R drives. You'll need an HD DVD player to watch the discs, but you'll find the quality absolutely jaw-dropping.

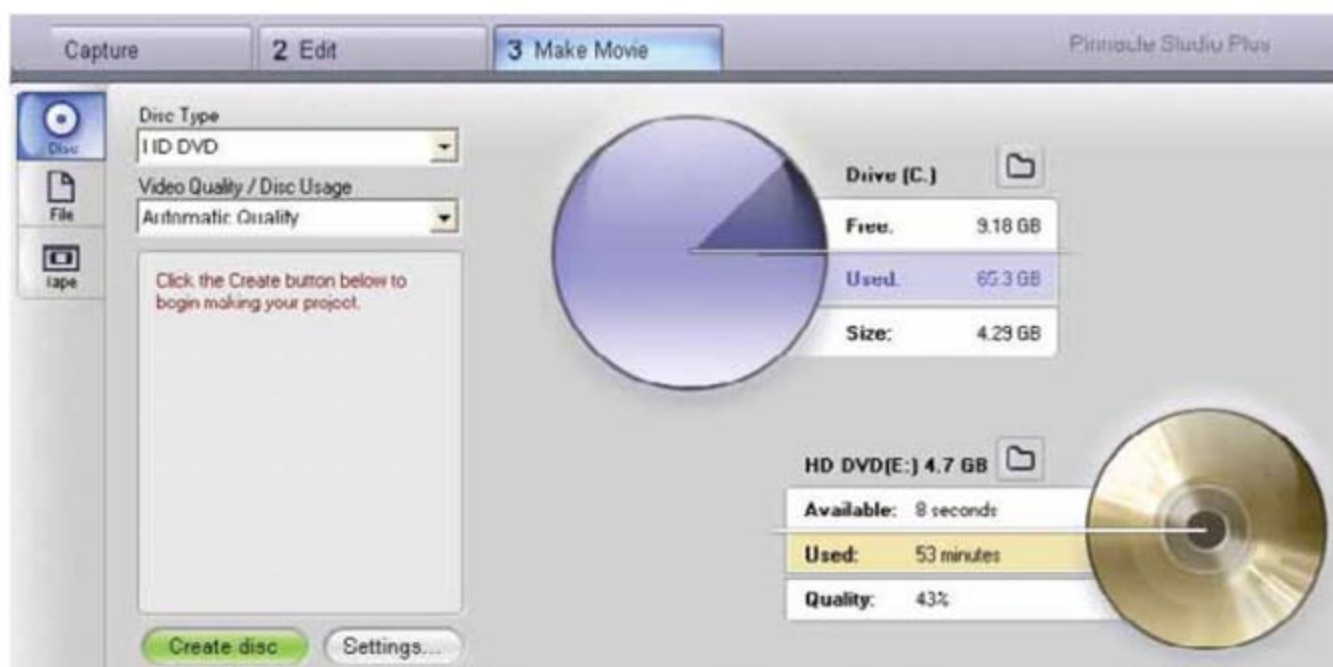
Of course, HD DVD discs have three times the capacity of DVD±R discs. Still, on our tests, a single-layer DVD±R disc held 25 to 35 minutes of video without degradation, and a dual-layer disc twice that, which should be more than sufficient for last summer's trip to the beach.

To get this capability, you'll have to buy Studio 10.5 and then download the free update to 10.7. An authorization key to burn HD DVD discs will cost an extra \$25. —Jan Ozer



## 1 GET STARTED

Create your video in Studio. Here's a simple holiday project, with scenes from Christmas morning and from the *Nutcracker* ballet.



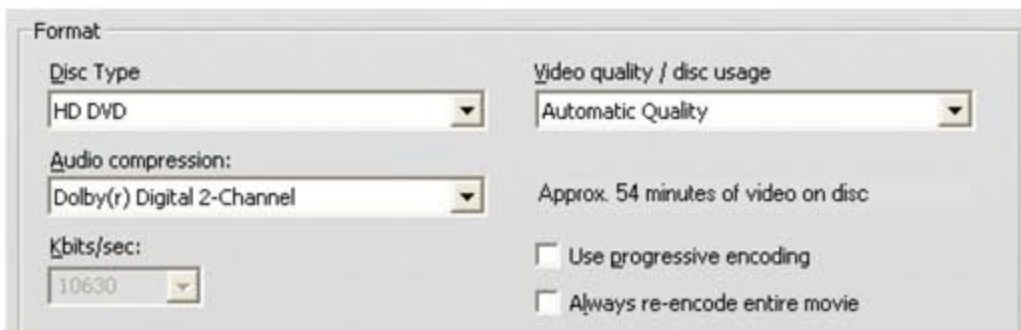
43% quality?  
Let's try a  
dual-layer disc.  
Click here to open  
that dialog.

## 2 CHOOSE HD DVD OUTPUT

On the *Make Movie* tab, choose *HD DVD* as disc type. Expect a short delay while Studio calculates the compression settings required to fit all video to disc.

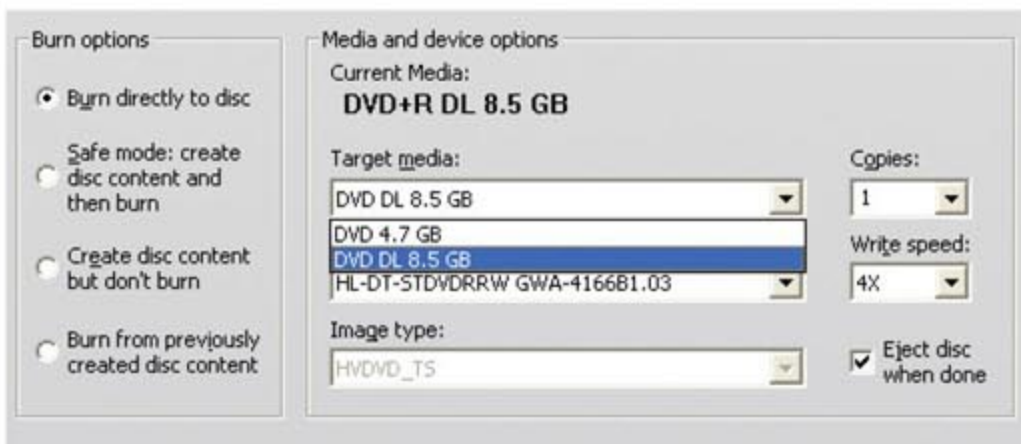
I burned all discs using *Automatic Quality*, which worked well. But in the figure to the left, Studio's Diskometer is telling us that with 53 minutes used on the disc, we're at 43 percent quality. I've got a dual-layer burner; let's see how that affects quality.





### 3 DON'T MESS WITH COMPRESSION

Here are the top panels on the *Settings* screen. Once you change the disc type, Studio will adjust these automatically to fit the new disc capacity. Leave all other settings at their defaults.



### 4 CHANGE TO DUAL-LAYER MEDIA

Changing to dual-layer media forces Studio to adjust compression settings to fit the new disc. I burned all projects directly to disc with very good results on three computers. If you experience consistent burn failures, try the *Safe Mode* burning option on the upper left.



### 5 CHECK RESULTS AND BURN

Dual-layer media boosted quality to 78 percent. Note that dual-layer discs have a greater incompatibility risk than single-layer discs, so find a brand that works (I used Verbatim and Ridata) and stick with it.

When you're ready, click *Create disc* in the *Make Movie* panel. Compressing and burning time will vary with CPU speed; budget about 3 to 4 minutes per minute of video on the disc for a reasonably fast computer. You'll definitely find the quality worth the wait.

#### VISTA TIP

### SEARCH TO START



IF YOU'VE BECOME USED TO SURFING YOUR Program Menu to get to applications, you'll be in for a shock when you first use Microsoft Windows Vista. The new Program Menu shows you only recently used applications and requires extra clicks to navigate to submenus. I found this very frustrating until I realized that the Search box Microsoft has added to the Start menu is a great replacement—as long as you're an accurate typist. As quickly as you can type, it returns intelligent results in apps, files, and even e-mail messages. —*Dave Cardinal, freelance writer*

#### FIREFOX EXTENSION

### ANONYMOUS SURFING



YOUR IP ADDRESS LINKS YOUR PC WITH THE sites you surf. For free, anonymous surfing, Torpark ([www.torrify.com](http://www.torrify.com)) grabs data from a single Web site, encrypts all traffic, and passes it through multiple servers via a Firefox plug-in.

To get started, download and decompress the Torriffy client. Start Torpark.exe and a Torpark-specific Firefox will start up. Your surfing will be slower, and you won't see your regular extensions. Try a site like Google or Yahoo! to see where the search giants believe your connection is originating from. You can also run the application on a thumb drive on a public computer or a borrowed Wi-Fi connection, thwarting sniffers and snoopers. If things get too slow, press the *Flush Circuit* button to get a new proxy server remotely—or switch back to your regular Firefox. —*Dave Mathews*



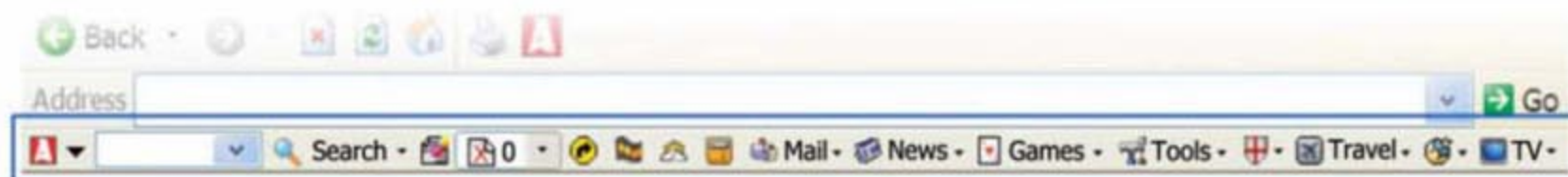
# Toolbar Review

There has never been a better time to use a toolbar with your Internet browser. Toolbars can provide users with numerous features such as Pop-up Blocking, Driving Directions, Adult Content Filtering, Security Features, Spyware Detection, Games and more. Toolbars are a convenient and powerful addition to your browser, making it easier than ever to navigate the Internet.

The comparison chart below will help you decide which toolbar is right for you.

Toolbar Comparison Chart				
Toolbar Features:	Advanced Toolbar	Google	YAHOO!	msn
Search Engines	100+	1	1	1
Search Tabs	✓			
Blocks Pop-Up Ads	✓	✓	✓	✓
Calendar Application	✓			
RSS News Reader w/Ticker	✓			
Auto Form Filler	✓	✓		✓
Adult Content Blocker	✓			
Spyware Remover	✓		✓	
Homepage Protector	✓			
Browser Tracks Eraser/Cleaner	✓			
File Shredder	✓			
Add Buttons for Software	✓			
Add Buttons for Webpages	✓	✓	✓	
Screensaver Launcher	✓			
Games Links	70	0	10	10
E-mail Provider Links	52	0	1	1
News Provider Links	88	0	1	0

With its vast array of features and incredible ease of use, the Advanced Toolbar stands out from the competition. It's a powerful web tool that allows you to choose from over 100 search engines, 80 plus news sources, 50 plus email providers and can be completely customized to meet your needs. The Advanced Toolbar does not record any user data, has a very straight forward privacy policy and is totally spyware and adware free. You can get a free copy of the Advanced Toolbar at <http://www.advancedtoolbar.com> and take advantage of everything this incredible toolbar has to offer.



You can get a free copy of the Advanced Toolbar at:

<http://www.advancedtoolbar.com>

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We couldn't put it any better than the words of Intel's Server Platform Group Marketing General Manager, Boyd Davis, when he said, "Aberdeen Stirling servers take advantage of the industry leading performance delivered by the new Quad-Core Intel Xeon processors to provide server and storage solutions that provide more performance, enable more efficiency and deliver more dependability." So if industry leading performance, more efficiency and dependability are on your server wish list, look no further. An Aberdeen Stirling server is the right choice for you. As Mr. Davis said, "Intel and Aberdeen both work to develop cutting-edge solutions for server customers."

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Linux Journal, August 2006—Aberdeen Stonehaven A261T

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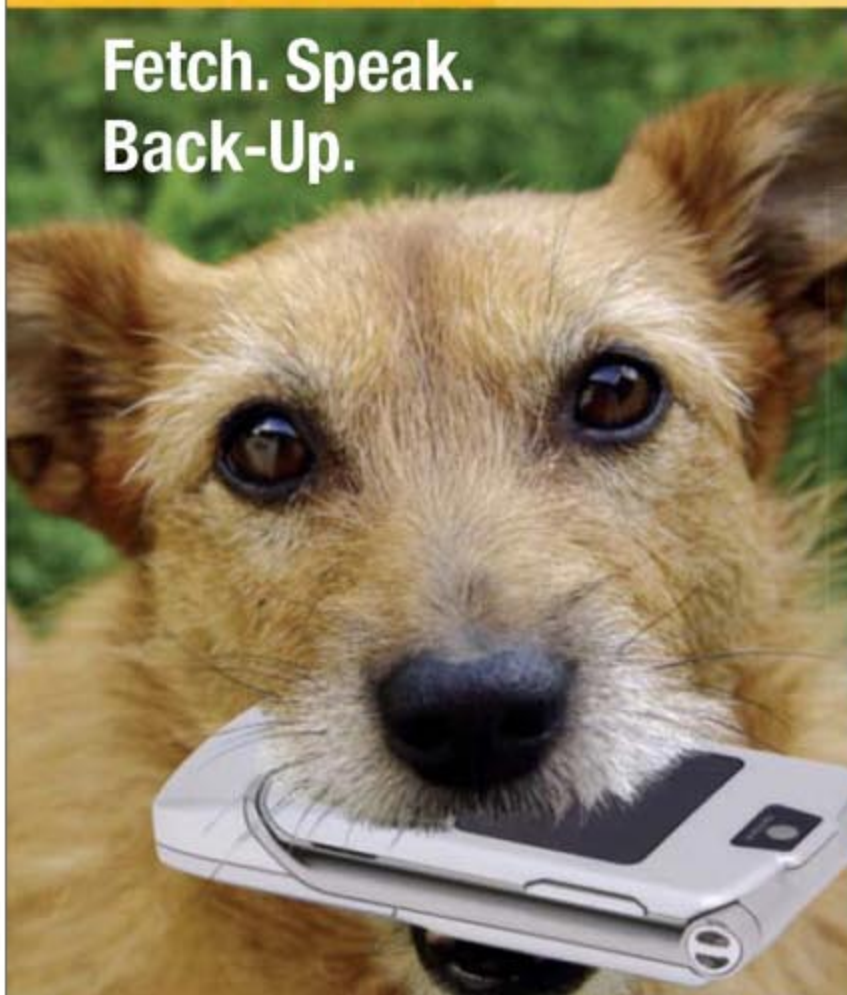
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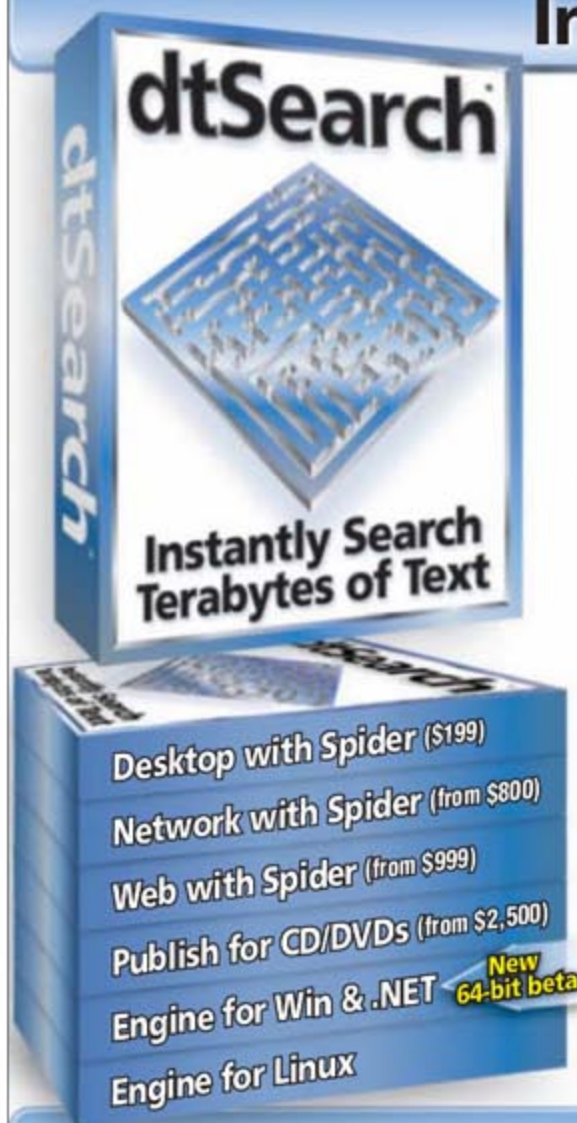
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## The Gaming Generation

*How do adults still find time for their favorite games?*

BY SHAWN STRUCK, 1UP.COM

**T**HE ATARI 2600 WAS RELEASED IN 1977. Pac-Mania swept the U.S. in 1980. The Nintendo Entertainment System took the American home-console market by storm in 1986. And now, the first generation to grow up with video games is all grown up.

Gamers who stared down the challenges of reaching “just one more level” or beating an old high score are now facing a more significant challenge: blending the gaming lifestyle with marriages, mortgages, and raising children. How are some members of the “video-game generation” coping? And where do sociologists see this generation taking family relationships and gaming itself in the future?

With gaming stepping out of the shadows of geekdom and into the spotlight of the mainstream, gamer parents aren’t alone—in fact, they have some pretty noteworthy company. Mike Krahulik, better known to his legions of fans as Gabe, one half of the team behind the gaming Webcomic “Penny Arcade,” says that time is the biggest challenge in blending gaming and parenthood. “You just don’t have as much time for gaming when you’re up every 30 minutes to change diapers and get thrown up on.”

Another parent who juggles time constraints with his gaming is John Scalzi, best-selling author of *Old Man’s War* and editorial contributor for *Official PlayStation Magazine*. The demands on his time can lead to a conflict between the way games were designed to be played and the way he wants to enjoy them. “I tend not to play games that don’t

allow me to save at any time and any place,” he says. Whether or not game makers intend it, Scalzi feels arbitrary save points imply that “what the game has got going on is more important than anything else I’ve got going on in my life. That’s incorrect; games have to fit my life, not the other way around.”

For Scalzi, Krahulik, and others, an important part of integrating gaming into their lives is sharing it with their children. Andrew Bub, a veteran gaming journalist, plays Barbie games with his young daughter Maggie; she’s also an avid Mario Bros. and Ms. Pac-Man player. Scalzi plays not only classic arcade games with his daughter but “some of the more bloodless fighting games,” such as the *Soul Calibur* series, and rhythm games such as *Dance Dance Revolution*.

Meanwhile, Dr. Michael G. Zey, noted sociologist and author of the forthcoming book *The Ageless Society*, predicts that with advances in medical technology and people living longer than ever, American society will see a reemergence of what he calls the “multigenerational family”—several generations living under one roof.

Video games have offered millions an opportunity to bond over a shared culture, and the gaming generation is taking the opportunity to share the experience with loved ones and pass a passion for gaming on to the next generation. Video games, once dismissed as a flash in the pan, have become a permanent part of the landscape. And for the generation that grew up with them, those virtual worlds have become a part of their everyday world. □

### TOP 10

**MOST POPULAR XBOX 360 GAMES**

- 1 **Battlestations: Midway**
- 2 **Halo 3**
- 3 **Blue Dragon**
- 4 **Fable 2**
- 5 **Resident Evil 5**
- 6 **Gears of War**
- 7 **Lost Planet**
- 8 **Viva Piñata**
- 9 **Dark Sector**
- 10 **Call of Duty 3**

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**T**HE "BYE-BYE, GOOD LUCK with that" e-mail phenomenon occurs not just during holidays but all year long as one person or another goes on vacation or takes a day off or travels crosstown and sets an auto-response on his or

her e-mail. It's worse than an answering machine.

The message appears in your inbox with the subject line "Out of Office AutoReply," followed by your subject line. Just when did auto reply become AutoReply with the capital R in the middle of a made-up word? More important, why is it used at all? Here's what the message really conveys:

"I'm too busy to deal with your friggin' e-mail. I may be having a piña colada in Hawaii. I may be watching a squirrel eat a nut. I'm not in the office and won't be anytime soon, so find someone else to pester. The company I work for may be too cheap to buy me a laptop, or perhaps I don't travel with one. More likely, I'm too dense to figure out how to use my laptop from a hotel and couldn't get my e-mail even if I wanted to. Whatever the case, you can get lost."

Personally, I've never used such a feature. I see no reason for it. I carry a laptop when I travel, and

I hate to come back to an inbox full of stale messages. It's not much effort to look at your inbox when you're traveling. Unless you're a psycho who needs to respond at length to everyone, you can get through the process in half an hour at most.

The way I see it, in the online world, you are either in, or you're out. You can't be in sometimes and then suddenly out because you feel like it. For example, I seldom carry a cell phone and am not known as someone you can get hold of when I'm driving around. I find it odd that most people who use AutoReply are likely to be available on the cell.

What's most annoying about AutoReply is that it amounts to spam, since the person is often looking at e-mail anyway and using AutoReply as a cheap screening mechanism. It's doubly annoying, since each time you e-mail the person you get a note back and the bogus AutoReply. And suddenly, you just get the AutoReply and no response. What happened?

These responses become the worst kind of spam when some AutoReply boneheads inhabit a huge distro list that has a lively discussion where everything is CC'd. Every time you send your response into the list, you get the AutoReply over and over.

The way I see it, you are either in the game and connected with some mechanism, or you're not. If you're working in technology and are such a big shot that you can travel all the time and don't feel like doing e-mail while traveling, then get someone to answer your e-mail. This is common, and okay by me. I send someone an e-mail and get an e-mail back from someone else telling me that so-and-so is in China, and then I'm asked what I want. An exchange takes place and my needs are quickly resolved, or not. Whatever the case, I'm not left in limbo by AutoReply.

E-mail is a peculiar institution. It maximizes the efficiency of written communication. It saves time over phone calls and other communication methods. The key to its use is the consistency of the exchange. Some people never answer their e-mail, although they may read it. Some people filter their mail heavily and always answer the important mail. Everyone does it differently. But AutoReply—unless you keep it on 24/7/365—should never be used. And leaving it on all the time is stupid. Just get off the grid. When people ask, tell them, "I don't use e-mail." That I can live with. AutoReply I cannot. □





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